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# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

12/20/99  
JC542 U.S. PTO

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Attorney's Docket No.: 4473-38

JC542 U.S. PTO  
09/467747  
12/20/99

## FILING TRANSMITTAL

Transmitted herewith for filing is the Patent Application of: Steinberg, et al.

For: **CAMERA NETWORK COMMUNICATION DEVICE**

## ENCLOSURES

- New Application Transmittal Form;
- Preliminary Amendment;
- 35-page application including specification, claims and abstract;
- 9 sheets of formal drawings;
- a Declaration, Power of Attorney & Petition (unsigned);
- A postcard for return to us as proof of receipt of the above documents.
- an Assignment of the invention to \_\_\_\_\_ and an assignment cover sheet;
- Verified Statement Claiming Small Entity Status (37 CFR 1.9(f) and 1.27(b));
- IDS (form PTO-1449) and copies of references;
- Other.

## TYPE OF FILING

- This application claims the benefit of earlier filed U.S. Patent Applications under 35 USC 120.
- Please accord Applicant the benefit of the priority date of \_\_\_\_\_ to this case pursuant to 35 USC 119. Applicant's claim for priority is based on application filed in \_\_\_\_\_ on said date.
- This is an application filed pursuant to 37 CFR 1.53, permitting receipt of a filing date upon filing of specification, claims and drawings, if required, with applicant being given a period of one month from the date of notice to file the fee and oath or declaration.**
- In the event any parts of this application are incomplete, please treat this as a filing under 37 CFR 1.53 as defined just above.

## CERTIFICATE OF MAILING

CERTIFICATE OF MAILING BY "EXPRESS MAIL": I hereby certify that this correspondence is being deposited with the U. S. Postal Service as Express Mail No. TB462926871US addressed to the Commissioner of Patents & Trademarks, Washington, D.C. 20231 on December 20, 1999 by Janelle Klenk.

Date December 20, 1999

Janelle Klenk

## FEE CALCULATION

The filing fee has been calculated as shown below:

			SMALL ENTITY	OTHER THAN A OR SMALL ENTITY		
			RATE	FEE	RATE	FEE
BASIC FEE Design Patent			\$160	\$	\$320	\$
BASIC FEE Utility Paten			<b>\$380</b>	\$	<b>\$760</b>	\$
EXTRA FEES						
TOTAL CLAIMS	32	MINUS 20 =	12 x 9 =	<b>\$108</b>	x 18 =	\$
INDEP.CLAIMS	3	MINUS 3 =	x 39 =	\$	x 78 =	\$
<input type="checkbox"/> MULTIPLE DEP.CLAIM			+130=	\$	+260=	\$
<input type="checkbox"/> ASSIGNMENT			+ 40 =	\$	+ 40 =	\$
<input type="checkbox"/> RULE 53 SURCHARGE			+ 65 =	\$	+130 =	\$
TOTAL				<b>\$488</b>		\$

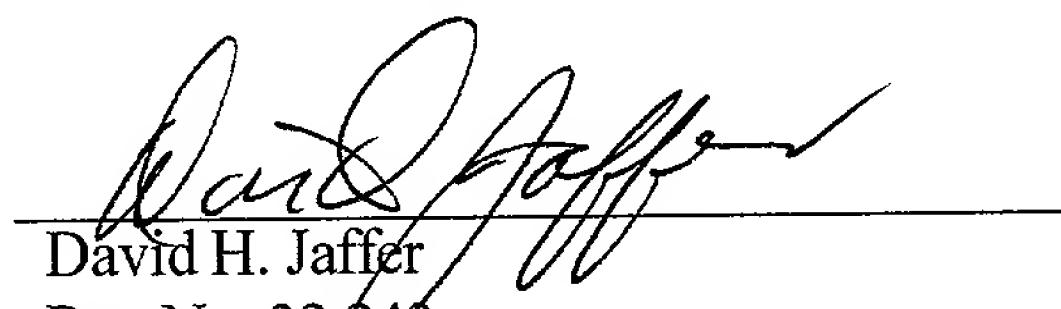
### FEE PAYMENT

- Attached is Check No. \_\_\_\_\_ in the sum of \$ \_\_\_\_\_ to cover the filing fee.  
 Please charge Account No. 08-0520 the sum of \$ \_\_\_\_\_.

### FEE DEFICIENCY

- The Commissioner is authorized to charge (or credit any overpayment) to deposit account No. \_\_\_\_\_:  
 Any additional filing fees required under 37 CFR 1.16, except Rule 53 filings, which will be paid within the time permitted by PTOL 1533.  
 Assignment Recordal fees.  
 The filing fee and surcharge under 37 CFR 1.16, patent application processing fees under 37 CFR 1.17 and patent issue fees under 37 CFR 1.18 are intended to be paid by our firm as they arise. As no abandonment is intended by any inadvertent nonpayment of fees, the Commissioner is hereby authorized to charge payment of such fees as from time to time come due, if not paid prior to due date to our Deposit Account No. \_\_\_\_\_.  
 A duplicate copy of this sheet is enclosed.

Respectfully submitted,

  
\_\_\_\_\_  
David H. Jaffer  
Reg.No: 32,043

Dated: 12-20-99

ROSENBLUM, PARISH & ISAACS  
160 W. Santa Clara, 15th Floor  
San Jose, CA 95113  
(408) 280-2800

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.'" M.P.E.P. § 601, 7th ed.

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**Box Patent Application**  
**Assistant Commissioner for Patents**  
**Washington, D.C. 20231**

### NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): **Eran Steinberg, Yury Prilutsky, and Scott Neil Rafer**

**WARNING:** 37 C.F.R. § 1.41(a)(1) points out:

"(a) A patent is applied for in the name or names of the actual inventor or inventors.

"(1) The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.63, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name or names of the inventor or inventors."

For (title): **CAMERA NETWORK COMMUNICATION DEVICE**

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### CERTIFICATION UNDER 37 C.F.R. § 1.10\*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this New Application Transmittal and the documents referred to as attached therein are being deposited with the United States Postal Service on this date December 20, 1999, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number TB462926871US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

**Janelle Klenk**

(type or print name of person mailing paper)



Signature of person mailing paper

**WARNING:** Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

**\*WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

**1. Type of Application**

This new application is for a(n)

(check one applicable item below)

- Original (nonprovisional)
- Design
- Plant

**WARNING:** *Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. § 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.*

**WARNING:** *Do not use this transmittal for the filing of a provisional application.*

**NOTE:** *If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.*

- Divisional.
- Continuation.
- Continuation-in-part (C-I-P).

**2. Benefit of Prior U.S. Application(s) (35 U.S.C. §§ 119(e), 120, or 121)**

**NOTE:** *A nonprovisional application may claim an invention disclosed in one or more prior filed copending nonprovisional applications or copending international applications designating the United States of America. In order for a nonprovisional application to claim the benefit of a prior filed copending nonprovisional application or copending international application designating the United States of America, each prior application must name as an inventor at least one inventor named in the later filed nonprovisional application and disclose the named inventor's invention claimed in at least one claim of the later filed nonprovisional application in the manner provided by the first paragraph of 35 U.S.C. § 112. Each prior application must also be:*

- (i) An international application entitled to a filing date in accordance with PCT Article 11 and designating the United States of America; or*
- (ii) Complete as set forth in § 1.51(b); or*
- (iii) Entitled to a filing date as set forth in § 1.53(b) or § 1.53(d) and include the basic filing fee set forth in § 1.16; or*
- (iv) Entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(l) within the time period set forth in § 1.53(f).*

*37 C.F.R. § 1.78(a)(1).*

**NOTE:** *If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.*

**WARNING:** *If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. §§ 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. §§ 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. §§ 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.*

**WARNING:** When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application must be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3).

- The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

### 3. Papers Enclosed

- A. Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. § 1.153 (Design) Application

21 Pages of specification

13 Pages of claims

9 Sheets of drawing

**WARNING:** DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. For comments on proposed then-new 37 C.F.R. § 1.84, see Notice of March 9, 1988 (1990 O.G. 57-62).

**NOTE:** "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page . . ." 37 C.F.R. § 1.84(c)).

(complete the following, if applicable)

- The enclosed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. § 1.84(b).
- formal
- informal

### B. Other Papers Enclosed

10 Pages of declaration and power of attorney

1 Pages of abstract

  Other

### 4. Additional papers enclosed

- Amendment to claims
- Cancel in this applications claims \_\_\_\_\_ before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- Add the claims shown on the attached amendment. (Claims added have been numbered consecutively following the highest numbered original claims.)
- Preliminary Amendment
- Information Disclosure Statement (37 C.F.R. § 1.98)
- Form PTO-1449 (PTO/SB/08A and 08B)
- Citations

- Declaration of Biological Deposit
- Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
- Authorization of Attorney(s) to Accept and Follow Instructions from Representative
- Special Comments
- Other

### 5. Declaration or oath (including power of attorney)

NOTE: A newly executed declaration is not required in a continuation or divisional application provided that the prior nonprovisional application contained a declaration as required, the application being filed is by all or fewer than all the inventors named in the prior application, there is no new matter in the application being filed, and a copy of the executed declaration filed in the prior application (showing the signature or an indication thereon that it was signed) is submitted. The copy must be accompanied by a statement requesting deletion of the names of person(s) who are not inventors of the application being filed. If the declaration in the prior application was filed under § 1.47, then a copy of that declaration must be filed accompanied by a copy of the decision granting § 1.47 status or, if a nonsigning person under § 1.47 has subsequently joined in a prior application, then a copy of the subsequently executed declaration must be filed. See 37 C.F.R. §§ 1.63(d)(1)-(3).

NOTE: A declaration filed to complete an application must be executed, identify the specification to which it is directed, identify each inventor by full name including family name and at least one given name, without abbreviation together with any other given name or initial, and the residence, post office address and country or citizenship of each inventor, and state whether the inventor is a sole or joint inventor. 37 C.F.R. § 1.63(a)(1)-(4).

NOTE: "The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.62, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(i) is filed supplying or changing the name or names of the inventor or inventors." 37 C.F.R. § 1.41(a)(1).

Enclosed

XXXXXX  
Executed by

(check all applicable boxes)

- inventor(s). (unsigned)
- legal representative of inventor(s).  
37 C.F.R. §§ 1.42 or 1.43.
- joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.
  - This is the petition required by 37 C.F.R. § 1.47 and the statement required by 37 C.F.R. § 1.47 is also attached. See item 13 below for fee.
- Not Enclosed.

NOTE: Where the filing is a completion in the U.S. of an International Application or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

- Application is made by a person authorized under 37 C.F.R. § 1.41(c) on behalf of all the above named inventor(s).

(The declaration or oath, along with the surcharge required by 37 C.F.R. § 1.16(e) can be filed subsequently).

- Showing that the filing is authorized.  
(not required unless called into question. 37 C.F.R. § 1.41(d))

## 6. Inventorship Statement

**WARNING:** If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.

The inventorship for all the claims in this application are:

- The same.

or

- Not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,  
 is submitted.  
 will be submitted.

## 7. Language

**NOTE:** An application including a signed oath or declaration may be filed in a language other than English. An English translation of the non-English language application and the processing fee of \$130.00 required by 37 C.F.R. § 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 C.F.R. § 1.52(d).

- English  
 Non-English

- The attached translation includes a statement that the translation is accurate. 37 C.F.R. § 1.52(d).

## 8. Assignment

- An assignment of the invention to FotoNation, Inc. of Millbrae,  
California

- 
- is attached. A separate  "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or  FORM PTO 1595 is also attached.

- will follow.

**NOTE:** "If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignee." Notice of May 4, 1990 (1114 O.G. 77-78).

**WARNING:** A newly executed "CERTIFICATE UNDER 37 C.F.R. § 3.73(b)" must be filed when a continuation-in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.

**9. Certified Copy**

Certified copy(ies) of application(s)

Country	Appln. No.	Filed
Country	Appln. No.	Filed
Country	Appln. No.	Filed

from which priority is claimed

- is (are) attached.  
 will follow.

*NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 C.F.R. § 1.55(a) and 1.63.*

*NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. § 120 is itself entitled to priority from a prior foreign application, then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.*

**10. Fee Calculation (37 C.F.R. § 1.16)****A.  Regular application**

CLAIMS AS FILED				
Number filed	Number Extra	Rate	Basic Fee 37 C.F.R. § 1.16(a) \$760.00	
Total				
Claims (37 C.F.R. § 1.16(c))	32 - 20 = 12	x \$ 18.00	\$ 216.00	
Independent				
Claims (37 C.F.R. § 1.16(b))	3 - 3 = 0	x \$ 78.00		
Multiple dependent claim(s), if any (37 C.F.R. § 1.16(d))		+ \$260.00		

- Amendment cancelling extra claims is enclosed.  
 Amendment deleting multiple-dependencies is enclosed.  
 Fee for extra claims is not being paid at this time.

*NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 C.F.R. § 1.16(d).*

Filing Fee Calculation	\$ 976.00
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**B.  Design application**  
(\$310.00—37 C.F.R. § 1.16(f))

Filing Fee Calculation	\$ _____
------------------------	----------

- C.  Plant application  
(\$480.00—37 C.F.R. § 1.16(g))

Filing fee calculation \$ \_\_\_\_\_

**11. Small Entity Statement(s)**

- Statement(s) that this is a filing by a small entity under 37 C.F.R. § 1.9 and 1.27  
~~extra space~~ will be filed in response to Notice of Missing Parts.

**WARNING:** "Status as a small entity must be specifically established in each application or patent in which the status is available and desired. Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. The refiling of an application under § 1.53 as a continuation, division, or continuation-in-part (including a continued prosecution application under § 1.53(d)), or the filing of a reissue application requires a new determination as to continued entitlement to small entity status for the continuing or reissue application. A nonprovisional application claiming benefit under 35 U.S.C. § 119(e), 120, 121, or 365(c) of a prior application, or a reissue application may rely on a statement filed in the prior application or in the patent if the nonprovisional application or the reissue application includes a reference to the statement in the prior application or in the patent or includes a copy of the statement in the prior application or in the patent and status as a small entity is still proper and desired. The payment of the small entity basic statutory filing fee will be treated as such a reference for purposes of this section." 37 C.F.R. § 1.28(a)(2).

**WARNING:** "Small entity status must not be established when the person or persons signing the . . . statement can unequivocally make the required self-certification." M.P.E.P., § 509.03, 6th ed., rev. 2, July 1996 (emphasis added).

(complete the following, if applicable)

- Status as a small entity was claimed in prior application

\_\_\_\_\_ / \_\_\_\_\_, filed on \_\_\_\_\_, from which benefit is being claimed for this application under:

- 35 U.S.C. §  119(e),  
 120,  
 121,  
 365(c),

and which status as a small entity is still proper and desired.

- A copy of the statement in the prior application is included.

Filing Fee Calculation (50% of A, B or C above)

\$ \_\_\_\_\_

**NOTE:** Any excess of the full fee paid will be refunded if small entity status is established and a refund request are filed within 2 months of the date of timely payment of a full fee. The two-month period is not extendable under § 1.136. 37 C.F.R. § 1.28(a).

**12. Request for International-Type Search (37 C.F.R. § 1.104(d))**

(complete, if applicable)

- Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

**13. Fee Payment Being Made at This Time**

Not Enclosed

No filing fee is to be paid at this time.

(This and the surcharge required by 37 C.F.R. § 1.16(e) can be paid subsequently.)

Enclosed

Filing fee

69

Recording assignment

**(\$40.00: 37 C.F.R. § 1.21(h))**

(See attached "COVER SHEET FOR  
ASSIGNMENT ACCOMPANYING NEW  
APPLICATION".)

\$ \_\_\_\_\_

Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached

**(\$130.00: 37 C.F.R. §§ 1.47 and 1.17(i))**

\$

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- For processing an application with a specification in

a non-English language

(\$130.00; 37 C.F.R. §§ 1.52(d) and 1.17(k))

\$

#### Processing and retention fee

(\$130.00; 37 C.F.R. §§ 1.53(d) and 1.21(l))

66

**Fee for international-type search report**

(\$40.00; 37 C.F.R. § 1.21(e))

A duplicate of this transmittal is attached.

**NOTE:** Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 C.F.R. § 1.22(b).

(New Application Transmittal [4-1]—page 8 of 11)

## 15. Authorization to Charge Additional Fees

**WARNING:** If no fees are to be paid on filing, the following items should not be completed.

**WARNING:** Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No.

\_\_\_\_\_:

- 37 C.F.R. § 1.16(a), (f) or (g) (filing fees)  
 37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

**NOTE:** Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid on these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- 37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)  
 37 C.F.R. § 1.17(a)(1)–(5) (extension fees pursuant to § 1.136(a)).  
 37 C.F.R. § 1.17 (application processing fees)

**NOTE:** ". . . A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

- 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

**NOTE:** Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

**NOTE:** 37 C.F.R. § 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . the issue fee. . ." From the wording of 37 C.F.R. § 1.28(b), (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

**16. Instructions as to Overpayment**

NOTE: ". . . Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

- Credit Account No. \_\_\_\_\_  
 Refund

Reg. No. 32,243

Tel. No. (408) 280-2800

Customer No.

  
\_\_\_\_\_  
**SIGNATURE OF PRACTITIONER**  
**David H. Jaffer**  
**ROSENBLUM PARISH & ISAACS**

(type or print name of attorney)

**160 W. Santa Clara Street, 15th Floor**

P.O. Address

**San Jose, California 95113**

**Incorporation by reference of added pages**

(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)

- Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed

Number of pages added 5

- Plus Added Pages for Papers Referred to in Item 4 Above (Preliminary Amendment)

Number of pages added 3

- Plus added pages deleting names of inventor(s) named in prior application(s) who is/are no longer inventor(s) of the subject matter claimed in this application.

Number of pages added \_\_\_\_\_

- Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added \_\_\_\_\_

- Statement Where No Further Pages Added**

(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)

- This transmittal ends with this page.

**ADDED PAGES FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF  
PRIOR U.S. APPLICATION(S) CLAIMED**

NOTE: See 37 C.F.R. § 1.78.

**17. Relate Back**

**WARNING:** If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. §§ 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. §§ 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. §§ 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

(complete the following, if applicable)

Amend the specification by inserting, before the first line, the following sentence:

**A. 35 U.S.C. § 119(e)**

NOTE: "Any nonprovisional application claiming the benefit of one or more prior filed copending provisional applications must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior provisional application, identifying it as a provisional application, and including the provisional application number (consisting of series code and serial number)." 37 C.F.R. § 1.78(a)(4).

"This application claims the benefit of U.S. Provisional Application(s) No(s).:

**APPLICATION NO(S):**

\_\_\_\_ / \_\_\_\_  
\_\_\_\_ / \_\_\_\_  
\_\_\_\_ / \_\_\_\_

**FILING DATE**

\_\_\_\_ " \_\_\_\_  
\_\_\_\_ " \_\_\_\_  
\_\_\_\_ " \_\_\_\_

(Added Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed  
[4-1.1]—page 1 of 5)

**B. 35 U.S.C. §§ 120, 121 and 365(c)**

**NOTE:** "Except for a continued prosecution application filed under § 1.53(d), any nonprovisional application claiming the benefit of one or more prior filed copending nonprovisional applications or international applications designating the United States of America must contain or be amended to contain in the first sentence of the specification following the title a reference to each such prior application, identifying it by application number (consisting of the series code and serial number) or international application number and international filing date and indicating the relationship of the applications. . . . Cross-references to other related applications may be made when appropriate." (See § 1.14(a)). 37 C.F.R. § 1.78(a)(2).

- "This application is a  
 continuation  
 continuation-in-part SEE PRIORITY CLAIM IN PRELIMINARY AMENDMENT.  
 divisional

of copending application(s)

application number 0 / \_\_\_\_\_ filed on \_\_\_\_\_ "

International Application \_\_\_\_\_ filed on \_\_\_\_\_  
\_\_\_\_\_ and which designated the U.S."

**NOTE:** The proper reference to a prior filed PCT application that entered the U.S. national phase is the U.S. serial number and the filing date of the PCT application that designated the U.S.

**NOTE:** (1) Where the application being transmitted adds subject matter to the International Application, then the filing can be as a continuation-in-part or (2) if it is desired to do so for other reasons then the filing can be as a continuation.

**NOTE:** The deadline for entering the national phase in the U.S. for an international application was clarified in the Notice of April 28, 1987 (1079 O.G. 32 to 46) as follows:

*"The Patent and Trademark Office considers the International application to be pending until the 22nd month from the priority date if the United States has been designated and no Demand for International Preliminary Examination has been filed prior to the expiration of the 19th month from the priority date and until the 32nd month from the priority date if a Demand for International Preliminary Examination which elected the United States of America has been filed prior to the expiration of the 19th month from the priority date, provided that a copy of the international application has been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively. If a copy of the international application has not been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively, the international application becomes abandoned as to the United States 20 or 30 months from the priority date respectively. These periods have been placed in the rules as paragraph (h) of § 1.494 and paragraph (i) of § 1.495. A continuing application under 35 U.S.C. 365(c) and 120 may be filed anytime during the pendency of the international application."*

- "The nonprovisional application designated above, namely application  
\_\_\_\_ / \_\_\_\_\_, filed \_\_\_\_\_, claims the benefit of  
U.S. Provisional Application(s) No(s).:

**APPLICATION NO(S).:**

**FILING DATE**

\_\_\_\_\_ / \_\_\_\_\_  
\_\_\_\_\_ / \_\_\_\_\_  
\_\_\_\_\_ / \_\_\_\_\_

- Where more than one reference is made above, please combine all references into one sentence.

### **18. Relate Back—35 U.S.C. § 119 Priority Claim for Prior Application**

The prior U.S. application(s), including any prior International Application designating the U.S., identified above in item 17B, in turn itself claim(s) foreign priority(ies) as follows:

Country	Appn. no.	Filed on
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The certified copy(ies) has (have)

- been filed on \_\_\_\_\_, in prior application O / \_\_\_\_\_, which was filed on \_\_\_\_\_.
- is (are) attached.

**WARNING:** *The certified copy of the priority application that may have been communicated to the PTO by the International Bureau may not be relied on without any need to file a certified copy of the priority application in the continuing application. This is so because the certified copy of the priority application communicated by the International Bureau is placed in a folder and is not assigned a U.S. serial number unless the national stage is entered. Such folders are disposed of if the national stage is not entered. Therefore, such certified copies may not be available if needed later in the prosecution of a continuing application. An alternative would be to physically remove the priority documents from the folders and transfer them to the continuing application. The resources required to request transfer, retrieve the folders, make suitable record notations, transfer the certified copies, enter and make a record of such copies in the Continuing Application are substantial. Accordingly, the priority documents in folders of international applications that have not entered the national stage may not be relied on. Notice of April 28, 1987 (1079 O.G. 32 to 46).*

### **19. Maintenance of Copendency of Prior Application**

**NOTE:** *The PTO finds it useful if a copy of the petition filed in the prior application extending the term for response is filed with the papers constituting the filing of the continuation application. Notice of November 5, 1985 (1060 O.G. 27).*

**A.  Extension of time in prior application**

*(This item must be completed and the papers filed in the prior application, if the period set in the prior application has run.)*

- A petition, fee and response extends the term in the pending prior application until \_\_\_\_\_.
  - A copy of the petition filed in prior application is attached.

**B.  Conditional Petition for Extension of Time in Prior Application**

*(complete this item, if previous item not applicable)*

- A conditional petition for extension of time is being filed in the pending prior application.
  - A copy of the conditional petition filed in the prior application is attached.

**20. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed**

(complete applicable item (a), (b) and/or (c) below)

- (a)  This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor(s) in this application are SEE NOTE BELOW.\*\*  
 the same.  
 less than those named in the prior application. It is requested that the following inventor(s) identified for the prior application be deleted:

---

(type name(s) of inventor(s) to be deleted)

- (b)  This application discloses and claims additional disclosure by amendment and a new declaration or oath is being filed. With respect to the prior application, the inventor(s) in this application are  
 the same.  
 the following additional inventor(s) have been added:

---

(type name(s) of inventor(s) to be added)

- (c) The inventorship for all the claims in this application are  
 the same.  
 not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made  
 is submitted.  
 will be submitted.

**\*\*Note:** This application discloses and claims subject matter disclosed in parent applications specified in the accompanying Preliminary Amendment. The inventors in this application are Eran Steinberg, Yury Prilutsky, and Scott Neil Rafer. Hari Vasudev is an inventor on one of the parent applications, but is not an inventor in this application, and it is requested that Hari Vasudev not be identified as an inventor for this application.

**21. Abandonment of Prior Application (if applicable)**

- Please abandon the prior application at a time while the prior application is pending, or when the petition for extension of time or to revive in that application is granted, and when this application is granted a filing date, so as to make this application copending with said prior application.

**NOTE:** According to the Notice of May 13, 1983 (103, TMOG 6-7), the filing of a continuation or continuation-in-part application is a proper response with respect to a petition for extension of time or a petition to revive and should include the express abandonment of the prior application conditioned upon the granting of the petition and the granting of a filing date to the continuing application.

**22. Petition for Suspension of Prosecution for the Time Necessary to File an Amendment**

**WARNING:** "The claims of a new application may be finally rejected in the first Office action in those situations where (A) the new application is a continuing application of, or a substitute for, an earlier application, and (B) all the claims of the new application (1) are drawn to the same invention claimed in the earlier application, and (2) would have been properly finally rejected on the grounds of art of record in the next Office action if they had been entered in the earlier application." M.P.E.P., § 706.07(b), 7th ed.

**NOTE:** Where it is possible that the claims on file will give rise to a first action final for this continuation application and for some reason an amendment cannot be filed promptly (e.g., experimental data is being gathered) it may be desirable to file a petition for suspension of prosecution for the time necessary.

(check the next item, if applicable)

- There is provided herewith a Petition To Suspend Prosecution for the Time Necessary to File An Amendment (New Application Filed Concurrently)

**23. Small Entity (37 C.F.R. § 1.28(a))**

- Applicant has established small entity status by the filing of a statement in parent application /\_\_\_\_\_ on \_\_\_\_\_.  
 A copy of the statement previously filed is included.

**WARNING:** See 37 C.F.R. § 1.28(a).

**WARNING:** "Small entity status must not be established when the person or persons signing the . . . statement can unequivocally make the required self-certification." M.P.E.P., § 509.03, 7th ed. (emphasis added).

**24. NOTIFICATION IN PARENT APPLICATION OF THIS FILING**

- A notification of the filing of this  
 (check one of the following)

- continuation  
 continuation-in-part  
 divisional

is being filed in the parent application, from which this application claims priority under 35 U.S.C. § 120.

(Added Pages for Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed  
 [4-1.1]—page 5 of 5)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Eran Steinberg, Yury Prilutsky, and Scott Neil Rafer

Group Art Unit: 2731 Docket No.: 4473-38

For: **CAMERA NETWORK COMMUNICATION DEVICE**

**PRELIMINARY AMENDMENT**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Dear Sir:

This Preliminary Amendment is submitted with the attached continuation-in-part application. The text of the application corresponds to Serial Number 09/105,594 filed June 26, 1998, and the claims are a subset of the claims of that application.

This application claims priority from the following pending United States Patent Applications listed by serial number and filing date:

09/105,594 filed June 26, 1998;  
09/353,915 filed July 15, 1999;  
09/187,706 filed November 6, 1998;  
09/211,992 filed December 14, 1998;  
09/313,131 filed May 17, 1999;  
09/335,219 filed June 17, 1999;  
09/105,593 filed June 26, 1998;  
08/896,711 filed July 18, 1997, which is a continuation of  
08/601,368 filed February 13, 1996; and  
09/232,055 filed January 15, 1999 (now U.S. Patent No. 5,862,218), which is a  
CIP of 08/627,441 filed April 4, 1996.

Applicant respectfully requests that the application be amended prior to examination as follows:

**In the Specification**

Page 1: After line 3, insert the following:

--This application is a continuation-in-part of the following United States Patent Applications: 09/105,594 filed June 26, 1998; 09/353,915 filed July 15, 1999; 09/187,706 filed November 6, 1998; 09/211,992 filed December 14, 1998; 09/313,131 filed May 17, 1999; 09/335,219 filed June 17, 1999; 09/105,593 filed June 26, 1998; 08/896,711 filed July 18, 1997, which is a continuation of 08/601,368 filed February 13, 1996; and 09/232,055 filed January 15, 1999 (now U.S. Patent No. 5,862,218), which is a CIP of 08/627,441 filed April 4, 1996.--

Page 21: After line 1, insert the following:

--This disclosure incorporates by reference the disclosures of the following U.S. Patent Applications: 09/353,915 filed July 15, 1999; 09/187,706 filed November 6, 1998; 09/211,992 filed December 14, 1998; 09/313,131 filed May 17, 1999; 09/335,219 filed June 17, 1999; 09/105,593 filed June 26, 1998; 08/896,711 filed July 18, 1997, which is a continuation of 08/601,368 filed February 13, 1996; and 09/232,055 filed January 15, 1999 (now U.S. Patent No. 5,862,218), which is a CIP of 08/627,441 filed April 4, 1996.--

**In the Claims**

Please cancel claims 2-8, 10-11, 15-25, 29-39, 41-43, 48, 52, 54, 59-64, 68-78, 83-85, and 90-99.

**REMARKS**

Applicant submits this Preliminary Amendment with the continuation-in-part application filed herewith.

If any questions should arise in the examination of this application, Applicant respectfully invites the Examiner to call the undersigned at the number set forth below.

Respectfully submitted,



David H. Jaffer  
Reg. No. 32,243

Date: 12-20-99

ROSENBLUM, PARISH & ISAACS  
160 W. Santa Clara St., 15th floor  
San Jose CA 95113  
408/280-2800

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the U.S. Postal Service, postage prepaid, as Express Mail Label No. TB 462926871US in an envelope addressed to: Commissioner of Patents & Trademarks, Washington, D.C. 20231 on December 20, 1999 by Janelle Klenk.



## Specification

# CAMERA NETWORK COMMUNICATION DEVICE

## **BACKGROUND OF THE INVENTION**

**Field of the Invention**

8 The present invention relates generally to digital still and  
9 video cameras and communication systems, and more particularly to  
10 a communication device providing a communication interface between  
11 a digital camera and a network system.

### Brief Description of the Prior Art

Portable digital cameras are generally treated as PC peripheral devices. With conventional digital cameras, a user takes pictures until the camera memory/disk is filled and then downloads the digital image data to a PC. The camera needs to be either connected to the PC, for example through a cable, or a removable storage device such as a PCMCIA card must be manually transferred from the camera to the PC. The need to regularly make a direct, physical connection to a PC reduces the portable nature of digital cameras. In addition, downloading images to a PC is a local operation. In order to move images into the internet, the user must apply another set of commands on the local PC. Such a system is described in U.S. Patent No. 5,475,441 by Parulski et al. Cameras are also incorporated into integrated systems for displaying an image, such as a visual surveillance system in a retail store. U.S. Patent No. 5,444,483 by Maeda discloses a system including a digital camera with processing circuitry for display on a television screen.

Another limitation of conventional digital cameras is that there is no direct way to identify an image once it is loaded onto the PC. Additional information must be added manually, such as operator name, account number, camera of origin, etc. Also, there is no way of securing the images to assure that an operator does

1 not alter them once loaded into a PC, or that the images will not  
2 be viewed by an unauthorized person as part of the transmission of  
3 the images from the PC to a remote location.

4

5 SUMMARY OF THE INVENTION

6 It is therefore an object of the present invention to provide  
7 an apparatus to serve as an interface for enabling a user of a  
8 portable still and or video digital camera to send image data  
9 directly from the camera to a communication network for  
10 transmission and downloading to a remote network location or  
11 remote computer.

12 It is a further object of the present invention to provide an  
13 apparatus enabling a user of a conventional digital camera  
14 designed to only download directly to a PC, to send camera data  
15 directly from the camera to a communication network for  
16 transmission and downloading to a remote network location or  
17 remote computer.

18 It is a still further object of the present invention to  
19 provide an apparatus that performs operations to secure the camera  
20 data against unauthorized use during transmission through an  
21 insecure communications network, and storage in an otherwise  
22 unsecure remote destination.

23 It is a still further object of the present invention to  
24 provide an apparatus for downloading image data from a variety of  
25 digital cameras to a remote computer through a selected  
26 communication network by means of an interface selected from a  
27 group, including but not limited to a modem, an ethernet adapter,  
28 a router, a hub, or infrared and other wireless connection.

29 It is another object of the present invention to provide an  
30 apparatus that can receive and encrypt and/or mark image data from  
31 a camera and transmit the encrypted/marked data to a remote  
32 computer.

33 It is another object of the present invention to provide an  
34 apparatus that can receive image data from a camera and transmit  
35 the data to a remote computer along with additional annotation

1 data including but not limited to time and date, user information,  
2 location information, and camera information.

3 It is an object of the present invention to provide an  
4 apparatus for connecting a digital camera output to a remote  
5 computer, the apparatus being responsive to a Smart Card to  
6 program the apparatus and the camera, and to allow an authorized  
7 user to operate the apparatus.

8 It is another object of the present invention to provide an  
9 apparatus for use with a digital camera, that can control the  
10 camera by means of programming, or in response to  
11 information/direction from a remote computerized destination.

12 It is another objective of the present invention to provide  
13 an apparatus for use with a digital camera, that can be programmed  
14 by a PC using the same interface on the apparatus that would later  
15 be used to communicate with the camera.

16 It is a still further objective of the present invention to  
17 provide a still and or video digital camera capable of downloading  
18 image data to a remote computer through a selected communication  
19 network by means of an interface selected from the group including  
20 but not limited to a modem, an ethernet adapter, a router, a hub,  
21 or infrared or other wireless connection.

22 It is another objective of the present invention to provide a  
23 digital camera, and a device for use with a digital camera, that  
24 automatically performs operations dependent on camera or device  
25 programming, or in response to information/direction from a remote  
26 computerized destination.

27 Briefly, a preferred embodiment of the present invention  
28 includes a communication device for interconnecting a digital  
29 camera to a communication network for downloading data to a remote  
30 computer. The device has a network communication port for  
31 establishing communication with a network via a pre-defined  
32 protocol and communication mode, and has a camera communication  
33 port such as a serial, parallel, SCSI, USB or Irda-port that  
34 imitates the back end application of a PC, for connection to a  
35 digital camera for sending and receiving data to and from the  
36 camera. The camera communication port is also used for input of

1 programming and setup data to the communication device from a PC.  
2 The device can be programmed to operate on the data directly, such  
3 as in the case of data for storage or operational direction,  
4 and/or direct the data to the camera. The device may also have a  
5 Smart card socket into which a user can insert a card to input  
6 data, such as user and camera I.D., user authorization, image  
7 marking, camera operational parameters, remote computer/  
8 destination address, etc. The device can be programmed to perform  
9 encryption, authentication, watermarking and fingerprinting  
10 procedures, as well as structuring the data for transmission over  
11 a particular network, and to automatically perform operations,  
12 such as at specific times or in response to data input.

13 An advantage of the present invention is that a digital  
14 camera user can download image camera data to a remote computer or  
15 network site and therefore avoid the concern of the need to  
16 connect the camera or its removable device to a local computer in  
17 order to perform such operation.

18 Another advantage of the present invention is that it gives  
19 the camera user the capability of automatically securing the  
20 camera data, for example by encrypting or marking the data prior  
21 to sending it over a communication system and downloading it to a  
22 computer.

23 Another advantage of the present invention is that it adds  
24 functionality to cameras that are not designed specifically to  
25 perform the task of connection to a remote network.

26 A further advantage of the present invention is that it  
27 provides an apparatus with a connection to a camera that is  
28 programmable for customized operations.

29 Another advantage of the present invention is that it  
30 provides an apparatus that enables a user to send data from a  
31 digital camera through a network to a plurality of destinations of  
32 a variety of types, such as network printers and remote archives.

33

34 **IN THE DRAWING**

35 Fig. 1 illustrates the communication device of the present  
36 invention interconnected to a camera and communication network;

1       Fig. 2 illustrates a device that connects to a camera through  
2 a removable card interface;

3       Fig. 3 is a block diagram of the communication device;

4       Fig. 4 illustrates the communication device connected to a  
5 network through one or more types of network connections;

6       Fig. 5 illustrates a communication device connected to more  
7 than one network;

8       Fig. 6 demonstrates various ways of interconnecting the  
9 communication device to a camera;

10      Fig. 7 summarizes various programming and operational  
11 options;

12      Fig. 8 summarizes various operations that the communication  
13 device can perform on images;

14      Fig. 9 shows an alternate embodiment wherein the  
15 communication device is integrated with a camera;

16      Fig. 10 illustrates an embodiment of the present invention  
17 wherein a communication device is configured for connecting data  
18 from a camera directly to a video/TV receiver;

19      Fig. 11 illustrates a communication device configured for  
20 sending different data to separate destinations;

21      Fig. 12 illustrates a communication device configured for  
22 distinguishing two sets of data and sending one set to one  
23 location and another to a second location.

24      Fig. 13 illustrates a plurality of cameras each communicating  
25 through a communication device to a single destination;

26      Fig. 14 is a flow chart illustrating automation related to  
27 the communication device;

28      Fig. 15 is a flow chart illustrating automation related to  
29 the destination device;

30      Fig. 16 presents summaries of types of data that can be sent  
31 from the destination to the communication device, and processing  
32 that can be done by the destination; and

33      Fig. 17 is a flow chart illustrating automation in a camera  
34 having a built-in communication device.

1                   DESCRIPTION OF THE PREFERRED EMBODIMENT

2         Referring now to Fig. 1 of the drawing, a preferred  
3         embodiment of the communication device 10 of the present invention  
4         is illustrated in use with a digital camera 12, PC 14,  
5         communication network 16 and a remote destination 18, which can be  
6         any type of network object, such as a PC, a printer, phone switch,  
7         server, etc. The device 10 has a camera communication port 20 for  
8         interconnection to either the camera 12 as indicated by cable 22  
9         to port 24, or to the PC 14 through cable 26. The dashed lines 28  
10      are to indicate that either the camera 12 or PC 14 can be  
11      connected to port 20. The device 10 has a network communication  
12      port 30 shown connected to the network 16 through line 32, and a  
13      Smart card port 34 for installation of a Smart card 36. The  
14      connection between the remote destination 18 to the network 16 is  
15      indicated by line 38. The communication device 10 includes any of  
16      various communication or network apparatus for sending data  
17      through the network 16.

18         The use of the communication device 10 involves first  
19      programming it as required. Programming is accomplished through  
20      use of a PC 14 connected to port 20 and/or through data entry from  
21      the Smart card 36 through the port 34 and/or from a remote  
22      computer at destination 18 by way of the network 16. Examples of  
23      programming options will be given in the following detailed  
24      description. Generally, the device 10 can be programmed to send  
25      instructions and data to the camera and to perform operations on  
26      data received from the camera, and to send data to the specified  
27      remote destination 18 by way of the network 16. Typical uses of  
28      the Smart card are for entry of additional data such as a user  
29      I.D., camera ID, an address or phone number of the remote  
30      destination/network site 18, operational instructions to the  
31      camera 12 and communication device 10, etc.

32         The primary function of the communication device 10 is to  
33      perform the necessary operations required to receive data from the  
34      camera 12 and then to send the data to the remote destination 18  
35      by way of a selected communication media indicated by network 16.

1 Other operations/functions will be described in the following  
2 specification.

3       The input 20 of the device 10 imitates the back end  
4 application of a PC, thus becoming transparent to the camera that  
5 operates as if it is communicating to a PC. The communication  
6 device 10 establishes communication with a network 16 via a pre-  
7 defined protocol and communication mode. The device 10 receives  
8 image data and other information data from a camera 12, and  
9 secures the data and structures it according to the required  
10 protocol, performs any other programmed operations, and then sends  
11 the data through the network for transmission to a destination  
12 device 18, such as a computer, printer, server, phone switch,  
13 etc., placing the data in assigned locations as defined by the  
14 device ID or commands. Communication between the device 10 and  
15 the destination device can be bi-directional, i.e. a destination  
16 device host 18 can download information to the communication  
17 device 10 as well as receive information. Any and all types of  
18 media are included in the spirit of the present invention.  
19 Particular embodiments of the communication device 10 include the  
20 functions of one or more devices including a telephone modem,  
21 ethernet adapter, a router, hub, etc. The device 10 can also be  
22 configured to transmit through a wireless communication link, such  
23 as satellite communication, etc. Signals include infrared, or any  
24 RF frequency such as UHF, VHF, or microwave.

25       In wireless communication between the device 10 and  
26 destination 18, line 32 is replaced with a wireless connection  
27 between the device 10 and the network 16, as indicated by  
28 antenna/emitter 40 on the communication device 10 and transceiver  
29 42 connected to the network 16.

30       Fig. 1 also shows wireless communication between the camera  
31 12 and communication device 10, indicated by a transceiver 44  
32 connected to the camera port 24, and an antenna/emitter 46 on the  
33 communication device 10 for sending and receiving data between the  
34 camera 12 and device 10. All types of radiated signals are  
35 included in the spirit of the invention, the particular type  
36 depending on such factors as distance and environment, etc.

1       Because the device 10 is programmable, there is significant  
2 flexibility in its use. For example, device 10 can be programmed  
3 to perform functions automatically, for example to receive  
4 instruction from a destination device/host computer 18 to direct  
5 the camera to take a picture at a particular time of day, or every  
6 hour and/or to download images or upload information at a specific  
7 time from the camera. The device 10 can be programmed by a  
8 destination device 18 to operate a camera "off-line". After  
9 uploading the instruction to the device 10, the communication can  
10 be terminated. The device 10 can keep the instructions and send  
11 them to the camera appropriately.

12      In another example, the device 10 can be programmed to  
13 automatically connect to the network 16 when the camera image data  
14 storage is full, or partially full, and then to download the image  
15 data and subsequently disconnect from the network 16. Upon  
16 completion of downloading and receiving a confirmation from the  
17 destination 18, the device 10 can continue by deleting the image  
18 data from the camera.

19      The communication device 10, or camera if it is programmable,  
20 can also be loaded with information to accompany an image, and  
21 this information can be included, for example, in an image header.  
22 Examples of valuable information may include an account number and  
23 a camera ID. The device 10 can be programmed to automatically  
24 include this information with image data downloaded to a  
25 destination. Such identification avoids confusion as to the  
26 source of the image.

27      The communication device is designed with selected features  
28 permanently programmed. An alternate embodiment of the present  
29 invention includes permanent programming to allow downloading of  
30 data only to a specific destination. Such fixed programming helps  
31 avoid theft of the device or camera for a different use. In  
32 general, it is a specific feature of the present invention to  
33 provide a device with permanent programming for any specific  
34 purpose.

35      Another alternate embodiment includes fixed programming to  
36 automatically request and receive a camera ID from the destination

device 18, and/or smart card 36 when connected to either of these. The camera ID is then included along with image data. A still further embodiment includes permanent programming to read and increment a counter and assign a unique number to each image received. In this way each image has associated with it a unique number, and the ID of the camera that secured the image. The programming for these functions will be understood by those skilled in the art, and is not shown. The required clock, counter, ROM and other necessary circuit components are illustrated in block form in Fig. 3. In an embodiment wherein the communication device is integrated with a digital camera, the camera ID is programmed into ROM, and therefore no additional request or receiving of a camera ID is required. The operation of including an image number is accomplished in the same manner as with the separate communication device. The integrated camera and communication device will be more fully described in the following text in reference to Fig. 9 of the drawing.

Other embodiments of the communication device 10 include the incorporation of visual 48 and sound 50 indicators to inform a user concerning operations that need to be accomplished. These can function either off or on line. For example, the alarm/sound indicator 50 can be programmed to sound, and/or the visual indicator can light if the device 10 is programmed to connect the camera to the network at a specific time and there is no connection. The indicators can also give notice when the image storage has reached a certain level. A visual display 52 is optional for presentation of useful information such as the remaining number of images to be sent to a destination 18, the remaining time required for transmission, notice of connection to a camera 12, and notice of connection to a destination 18. Internally, the device 10 includes a counter to maintain the image count for display as discussed above, and may optionally also include a clock for use in indicating the date and time of receiving an image on the display 52.

An alternate construction 54 of a device that is functionally similar to device 10 is shown in Fig. 2 wherein the connection

1 from the device 54 to a camera 56, or to the PC 14 is made through  
2 a removable storage interface such as a PCMCIA card, SamrtMedia  
3 CompactFlash Clik! Card, etc. For example, a PCMCIA card 36 can  
4 be placed in the camera card slot 58 and camera data can be  
5 downloaded to the card 36. The card 36 can then be placed in the  
6 device 54 slot 60, and the camera data can be loaded into the  
7 device 54 for processing and transmission through connection 62 to  
8 a destination 20. An alternate embodiment is also indicated in  
9 Fig. 2, wherein a PCMCIA card extension 64 is provided for  
10 installation in the PCMCIA card slot 58 of the camera 56. Other  
11 configurations and types of connections in the design of the  
12 communication device will be apparent to those skilled in the art  
13 and these are to be included in the spirit of the present  
14 invention.

15 Referring to Fig. 3, the internal structure of the  
16 communication device 10 is shown in block form. A processor 66  
17 performs operations according to specific programming generally  
18 indicated by the image processing block 68, and coordinates the  
19 activation of the communication device 10. Specifically noted in  
20 the processor block 66 are the operations of maintaining the time  
21 and date (clock 70), for inclusion with image data to indicate the  
22 time and date of the image processing. The processor also keeps an  
23 account of the number of images received and sent (block 72), for  
24 display on the LED screen 52, and processes additional data (block  
25 74) for various purposes, including user data to be included with  
26 image data. In addition, the processor performs security  
27 operations when programmed to do so (block 76). Typically, a ROM  
28 78 is provided to store permanently programmed data, and a RAM 80  
29 is used for temporary storage. Specific camera communication  
30 apparatus includes a camera connection controller 82, and an  
31 optional infrared transceiver 84 for a wireless connection to the  
32 camera. The camera controller 82 connects to the camera through  
33 port 20 and/or the transceiver 84, and additional connective  
34 hardware as indicated in Fig. 1. The network communication  
35 apparatus similarly includes, in addition to the processor and  
36 memory blocks, a network connection controller 86, communicating

1 with the network through line 32 and/or connected to a modem 88  
2 through bus 90 and then to the network through a modem output bus  
3 92 and/or a bus 94 to a transceiver 96 to the antenna/emitter 40  
4 via a bus 98 for a wireless connection to the network. Similarly,  
5 the camera connection controller 82 is optionally connected via  
6 bus 83 to a transceiver 84 connected through bus 85 to  
7 antenna/emitter 46 for communication with the camera 12. The user  
8 indicators are operated through a user interface controller 108.  
9 The indicators include a battery condition indicator 110, the  
10 alarm light 48, the sound alarm 50, a power switch 112, and the  
11 LED display 52. The power supply 114 is also indicated with  
12 options including a battery 116, an AC battery charging supply  
13 input 118, a phone line power connection 120 and a line 122 from  
14 an alternate power bus, not shown.

15 Fig. 4 illustrates accommodation of a number of types of  
16 network connections with a single communication device 124,  
17 including device circuitry 126 similar to that shown in Fig. 3,  
18 including a modem 128 and also an Ethernet adapter 130, a router  
19 132, a hub 134, an infrared link 136 and/or any wireless  
20 connection 138. The device 124 can be configured to provide  
21 compatible data format for any one or more of the possible types  
22 of network connections, either individually or simultaneously. In  
23 the case of simultaneous output to more than one media, the device  
24 124 includes a separate output for each type of connection. The  
25 various selected connection types can each transmit through a  
26 corresponding part of network 16 to a single computer or remote  
27 network node 18, or they can each output to a different remote  
28 destination, such as illustrated in Fig. 5 where output from a  
29 camera 12 is sent by a communication device 140 by way of an  
30 ethernet adapter 130 through a network 139 to a first remote  
31 computer 142, and also by way of a wireless connection/transceiver  
32 138 to a transceiver 42, through a network 141 to a second remote  
33 computer 146, or alternately to the computer 142 as indicated by  
34 line 148.

35 The communication devices described in this disclosure can be  
36 connected to a camera by any of a variety of port types. This is

1 illustrated in Fig. 6 showing a camera 150 connected to a  
2 communication device 152 by way of serial ports 154, 156, SCSI  
3 ports 158, 160, IrDa ports 162, 164, parallel ports 166, 168 and  
4 USB ports 170, 172 from communication device 152 to the camera  
5 150. The device 152 can have any combination of outputs and other  
6 features as described for communication devices elsewhere in this  
7 disclosure. As shown, the device 152 has an output port 174 and  
8 an optional Smart card port 176 for use with a Smart card 36. The  
9 various interconnecting lines or media are simply noted as lines  
10 178, each configured appropriately for the type of port. In the  
11 case of infrared communication the corresponding line 178 is not a  
12 physical communication cable but rather an unobstructed line of  
13 view. The camera and communication device can have one or more of  
14 the ports shown in Fig. 6. The spirit of the present invention  
15 includes other communication lines or media between the camera and  
16 communication device in addition to those shown in reference to  
17 Fig. 6, and between the communication device and a remote computer  
18 in addition to those illustrated in reference to Fig. 4. Such  
19 variations will be apparent to those skilled in the art.

20 As discussed above, the communication device of the present  
21 invention provides downloading of camera images onto computerized  
22 systems in an automated manner. The communication device is  
23 programmed to include information about the camera, the remote  
24 computer and intervening network and the corresponding method of  
25 transporting the information.

26 In addition to these more general features of the  
27 communication device, numerous programming and operational options  
28 are included in the spirit of the present invention, examples of  
29 which are given in the lists of Fig. 7. The types of connections  
30 from the communication device to a network were illustrated in  
31 detail in Fig. 4. These options are also listed in Fig. 7 under  
32 the heading "Device Connection to Network". Such connections  
33 require specific ordering/arranging of data known as protocols.  
34 Typical protocols are listed in Fig. 7 under "Device to Network  
35 Protocols". A user will also often find it convenient to include  
36 the camera serial number or any other unique identification, along

1 with the image information. Certain types of camera information  
2 are listed under "Device Information Re Camera", and this and  
3 other camera information are programmed into a device by use of  
4 the Smart card installed for example in port 34 of Fig. 1, or by  
5 use of a PC by way of port 20, or from a remote computer at 18 as  
6 illustrated in Fig. 1, or by other means that will be apparent to  
7 those skilled in the art.

8 In the same way, information regarding the identity by the  
9 particular communication device, and other information can be  
10 programmed into the device. Examples include a unique  
11 communication device ID, the date and time maintained by a built-  
12 in clock, the number of images stored and/or downloaded, and the  
13 numbers retained on a consecutive image counter in the  
14 communication device. These features are also listed in Fig. 7  
15 under DEVICE GENERATED INFORMATION.

16 The communication device is also programmed with information  
17 concerning the destination 18, which normally will be a remote PC,  
18 but could be some other apparatus such as a video monitor or a  
19 printer, etc. This type of information is listed under "Device  
20 Information Re Destination" in Fig. 7.

21 Requiring a user password avoids the possibility that an  
22 unauthorized person will alter data. Phone number and IP address  
23 data can also be loaded into the communication device, and are  
24 listed under "Operational Information for Devices and/or Camera"  
25 in Fig. 7. Detailed examples of operations to be performed on  
26 images will be discussed in reference to Fig. 8.

27 The communication device programming also includes  
28 instructions that are then sent by the communication device to the  
29 camera, examples of which are listed in Fig. 7 under "Instruction  
30 to Camera From Device".

31 The purpose of the communication device is to receive  
32 information from the camera and then to store it, or modify it,  
33 and/or add to it according to the program and data, and send the  
34 required data to the network. Examples of data received from the  
35 camera are listed in Fig. 7 under "Device Information From  
36 Camera". Examples of operations performed on image data are

1 included in the list of Fig. 8. A particular embodiment includes  
2 the device programmed to add identifiers to the image, such as  
3 including the date and time of image acquisition, the user's name,  
4 a unique camera I.D. or image I.D. and the date and time of  
5 transmission. This data can be placed on the image, or in an  
6 image header, or outside the image area. The communication device  
7 can also be programmed to mark, i.e. watermark or finger print,  
8 which are invisible marks, the images for the purpose of deterring  
9 unauthorized use, and/or it can be programmed to prepare image  
10 authentication data, or to encrypt the entire set of image data to  
11 prevent any unauthorized person from viewing the image. For  
12 example, the communication device can be programmed to store and  
13 encrypt selected image data points for comparison with data from  
14 corresponding locations of a questionable image at a later time.

15 It is noted in Fig. 8 that the device can also perform other  
16 operations such as compressing or expanding files, and parsing  
17 files and converting them to different formats.

18 The specific items listed in Figs. 7 and 8, and discussed  
19 above concerning programming of the communication device are all  
20 given by way of example. The basic objective of the present  
21 invention is to provide a communication device that will allow a  
22 digital camera to be connected to one or more types of  
23 communication networks for downloading of data to, and receiving  
24 data from a remote destination, which is typically a computer.  
25 Details of the circuitry and programming of the communication  
26 device do not need to be described in this disclosure because  
27 those skilled in the art of digital apparatus will understand how  
28 to design the device to perform the operations disclosed and  
29 claimed herein.

30 The embodiments of the present invention illustrated above  
31 are preferred embodiments. The communication device is  
32 particularly useful in these forms in that it allows existing  
33 digital cameras that do not have the functionality to connect to a  
34 network, to be connected to any of a variety of communication  
35 networks for transmission of image data and receiving  
36 instructions. Existing digital cameras do not have to be modified

1 to function with the communication device of the present invention  
2 because an interconnection is made through an existing camera port  
3 using the existing protocol.

4 An alternate embodiment of the present invention is  
5 illustrated in Fig. 9 wherein a communication device 180 is  
6 integrated inside a digital camera 182 containing a digital camera  
7 section 184. The novel digital camera 182 can send and receive  
8 data to and from a communication network. The camera 182 in this  
9 embodiment has a serial port 186 for connection to a line 188 to a  
10 PC for receiving programming data, for use in a downloading image  
11 data directly to a PC, as in a conventional digital camera. The  
12 camera 182 also has one or more communication ports 190 for  
13 connection to one or more lines 192 to a communication network.  
14 The network communication options discussed for example in  
15 reference to Figs. 4 and 5 also apply to the device 180 of Fig. 9.  
16 The operation of the device portion 180, and various features such  
17 as the display, indicators, etc. are the same as discussed above  
18 in regard to the external communication devices such as 10 or 124.  
19 Port 190 is for acceptance of a Smart card 36. Other optional  
20 features are not repeated in Fig. 9 for simplicity and to avoid  
21 redundant discussion.

22 Fig. 10 illustrates an embodiment of the invention wherein a  
23 communication device 192 is configured for connecting data from a  
24 camera 194 directly to a video/TV receiver 196. This connectivity  
25 allows both preview of live images from the camera as well as  
26 post-view or playback of either still images, or video when  
27 applicable.

28 Figs. 11 and 12 illustrate communication devices that are  
29 configured for transmission to separate destinations. Fig. 11  
30 illustrates a case where the camera 198 is capable of outputting  
31 first and second sets of data on lines 200 and 202 respectively,  
32 to a communication device 204, and wherein it is desirable to send  
33 a first set of data to a first destination 206 and a second set of  
34 data to a second destination 208. For example, a journalist may  
35 want to send high resolution data to his private PC at destination  
36 206 and send low resolution data to a potential customer for

1 preview at destination 208 prior to placing a purchase order for  
2 the image.

3 Other applications include "escrow" security transmissions  
4 where images "first data" are sent to a first location 206, and  
5 other information "second data" is automatically sent to a  
6 second location/recipient 208. In the case of secured images, an  
7 authenticated image can be sent to a first location such as 206  
8 and an image signature and/or authentication data can be sent to a  
9 second location 208. Similarly, encrypted or watermarked data can  
10 be sent to a first location, and original data to a second  
11 location.

12 In the case where the camera cannot provide both the first  
13 and second data, the second data can be prepared by the  
14 communication device, as illustrated in Fig. 12. In this case,  
15 the camera 210 only outputs original image data. The  
16 communication device 212 is programmed to create encrypted image  
17 data and/or authentication data, or include other data, and then  
18 output first selected data to a first destination/location 206 and  
19 a second set of data to location/destination 208.

20 As referred to in the above description, the device of the  
21 present invention performs operations in an automated manner.  
22 Novel methods of operation of the communication device and/or  
23 integrated camera device will now be described in greater detail.

24 The communication devices described above, used in a system,  
25 for example the system described in Fig. 1 wherein a programmable  
26 communication device 10 interconnects a camera 12 with a  
27 destination 18, or a similar system with a communication device  
28 integrated with a camera as described in reference to Fig. 9,  
29 provide a structure capable of automatic and intelligent  
30 operation. The computerized destination 18 can be of various  
31 configurations, including a single PC or a network server.

32 The method and apparatus of the present invention in  
33 automatic operation has great utility when a plurality of  
34 communication devices, either as separate devices or integrated  
35 with a camera, are in service and attempts are made to download  
36 image data. Image data requires a large memory, and downloading

1 from a number of communication devices is time consuming.  
2 Networks encountering such a load of image data can easily be  
3 overloaded, requiring either large increases in network band  
4 width, or a method of organizing the downloading in an automated  
5 manner. Such automation is a particularly useful feature of an  
6 embodiment of the present invention and is illustrated in Fig. 13  
7 where three sets of cameras 214, 216, and 218 and communication  
8 devices 220, 222, and 224 are connected to a single destination  
9 226 through a network 228.

10 Various ways of automating the transfer of image data from  
11 the cameras to the destination will be understood by those skilled  
12 in the art of automation after reading the description of the  
13 invention. A preferred embodiment involves programming the  
14 devices 220, 222, and 224 to automatically "re-dial" for a hook-  
15 up with the destination when a busy signal is received. The  
16 destination simply accepts a first call and ignores subsequent  
17 calls until the processing of the first call is complete. An  
18 alternate method includes the destination storing the numbers of  
19 the calling communication devices in the order received, and then  
20 notifying the next device in line when the destination is ready  
21 for accepting the next download. This approach has an advantage  
22 over the re-dialing approach in guaranteeing each device its  
23 priority.

24 Referring now to Fig. 14, an example is illustrated wherein a  
25 communication device is programmed to perform automatic  
26 operations. Block 230 (set up device) represents the programming  
27 that is accomplished through use of a PC 14, Smart card 36, or the  
28 computer/destination 18 through a network 16. Fig. 14 is a  
29 simplified example of programmed decisions made by a communication  
30 device. Details of programming for such operations are well  
31 understood by those skilled in the art and therefore are not  
32 described in detail.

33 The example of Fig. 14 illustrates the communication device,  
34 for example device 10, programmed to query the camera  
35 communication port 20 to determine if a camera is connected. The  
36 communication device, for example, can be programmed to check for

1 a camera connection (block 232) at periodic intervals, or at  
2 certain times of the day. If the camera is connected, the  
3 communication device can then receive and evaluate data from the  
4 camera, an operation which can be fully automatic if the camera is  
5 programmed to receive and respond to commands through line 22. If  
6 not, a user can manually trigger the camera 12 to download the  
7 data to the communication device. In either the case of automatic  
8 or manual download to the communication device, block 234  
9 represents this function. Block 236 indicates an option for a  
10 compatible camera 12, wherein the communication device queries the  
11 camera to determine what percentage of the image storage capacity  
12 is filled. If it exceeds a certain predetermined amount, for  
13 example 75%, the communication device responds by instructing the  
14 camera 12 to download the image data (block 234). If not, the  
15 device can continue to check for a camera connection and image  
16 memory available on a periodic basis, and/or at certain times.

17 Once image data is loaded, the communication device can  
18 respond to programming to perform any of a variety of operations  
19 as discussed above, such as encrypting, creating authentication  
20 data and relegateing selected data for subsequent transmission to  
21 one or more destinations. This is indicated simply as block 238.

22 The communication device can be programmed to send the  
23 relegateed data at certain times. This programming is symbolically  
24 indicated by block 240, and at the programmed time the device  
25 checks the output port 30 (Fig. 1) to determine if a connection is  
26 made to a network (block 242). If so, the communication device  
27 further checks to determine if the destination is connected and  
28 ready. This is indicated by block 244 for a single destination  
29 and by blocks 246 and 248 for two separate destinations, although  
30 any number of destinations are within the scope of the present  
31 invention.

32 Once the communication device determines that the destination  
33 is ready, the data is transmitted as indicated by blocks 250, 252  
34 and 254. Block 250 also indicates an option indicating  
35 programming of the communication device to include a unique ID  
36 with the transmitted data to connect the data to a specific

1 location, i.e. database, within the destination. The purpose of  
2 Fig. 14 is primarily to illustrate automation within the  
3 communication devices of the present invention. Automation is  
4 also possible in the destination 18, and in the camera 12 in those  
5 cases where the camera 12 is programmable.

6 Fig. 15 will now be used to discuss automation within the  
7 destination 18. It should also be understood that the present  
8 invention includes combinations in which automation occurs in the  
9 communication device, camera and destination, or in any  
10 combination of the three to accomplish required programming  
11 objectives.

12 Block 258 of Fig. 15 symbolizes programming of the  
13 destination 18 to perform operations, examples of which will be  
14 described in reference to the various blocks of Fig. 15. Block  
15 260 indicates the destination determining if the communication  
16 device is connected to the network. The destination can be  
17 programmed to check for a connection at various intervals or times  
18 of day, etc. The destination can also be programmed to respond to  
19 a signal from the communication device indicating a requirement to  
20 transmit data. Both of these options, either an active query to  
21 the communication device or a response from the communication  
22 device are included in the step indicated by block 260.

23 Once connection is established between the destination and  
24 the communication device, the destination can send instructions to  
25 the communication device as indicated by block 262. As with block  
26 260, this action by the destination can be self initiated or in  
27 response to an instruction received from the communication device  
28 to send data. The data is then received by the destination (block  
29 264) and processed (block 266). The communication device can be  
30 either separate from the camera or integrated with it.

31 Fig. 16 lists examples of data that can be sent by a  
32 destination to a communication device including instructions to  
33 the communication device to direct the camera to take a picture at  
34 a set time or at certain intervals. Account identification,  
35 titles or other information can be sent for inclusion in an image  
36 header, or for watermarking, etc. Operational data can be sent to

1 inform the user when and where to take a picture. A map showing  
2 where to take a picture can be sent, for example, which can be  
3 displayed by the user on a camera visual display, and corrective  
4 notices can be sent informing the user of any problems with the  
5 downloaded image data such as chronic underexposure, focus  
6 problems, etc. The destination can also send instructions to the  
7 communication device to check camera memory, download data,  
8 encrypt data, etc., all controlled by the destination.

9 Upon receiving data from the communication device (block  
10 264), the destination can automatically process the data according  
11 to specific programmed objectives (block 266). A number of  
12 possibilities are included in Fig. 16 under "Data Processing by  
13 Destination". In cases where data is received in unencrypted  
14 form, it can encrypt and store the data, or it can decrypt  
15 encrypted data and print images automatically or archive them.  
16 The destination 18 can also automatically distribute selected data  
17 items to other remote locations, such as on the web, or e-mail at  
18 a low resolution image for inspection prior to a sale. The  
19 destination can also store authentication data of an original  
20 image and create corresponding authentication data from a  
21 questionable image, and compare the two sets of authentication  
22 data to determine the validity of the questionable image.

23 In summary of the automatic features of the invention, the  
24 destination, for example a server, can call the communication  
25 device to notify it of a particular time to send data to a server,  
26 for example based on local and remote network load, server  
27 processing load, server storage capacity, fulfillment (printing),  
28 system load, and other factors. As explained above, there may be  
29 querying/handshaking between the communication device and the  
30 server to determine if there are sufficient images to send, i.e.  
31 to determine the space available in the image storage memory of  
32 the communication device or camera-device. Alternatively, the  
33 communication device can query the destination to initiate the  
34 sending of data.

35 Another automatic feature of the present invention is the  
36 automatic inclusion of prescribed information along with image

1 data, such information including for example, a unique ID, date,  
2 time, etc. Closely related to the information included with an  
3 image is a phone number or network IP received by the device or  
4 camera for automatic dialing to a destination. The communication  
5 device can also automatically receive images and related  
6 information by querying the destination at preprogrammed  
7 times/intervals. Another automatic feature includes automatic  
8 downloading based on priority when some users have priority over  
9 others.

10 Fig. 17 applies to the integrated camera-device of Fig. 9.  
11 The camera-device is first programmed as indicated by block 268.  
12 A picture is taken (block 270), and the programmed operations are  
13 performed (block 272). The camera-device can then check memory  
14 to determine if data should be downloaded (block 274). If memory  
15 space is low, the camera-device will check for a network  
16 connection (block 276) and alternatively also display a notice to  
17 the user of low storage capacity available (block 278). Once a  
18 connection is made to the network, the data is downloaded (block  
19 280). In general, all of the features discussed relative to the  
20 communication device 10 apply also to the camera 182 with an  
21 integrated communication device 180 as illustrated in Fig. 9,  
22 except for those comments that refer to the external connection  
23 between the camera and the communications device.

24 Although the present invention has been described above in  
25 terms of a specific embodiment, it is anticipated that alterations  
26 and modifications thereof will no doubt become apparent to those  
27 skilled in the art. It is therefore intended that the following  
28 claims be interpreted as covering all such alterations and  
29 modifications as fall within the true spirit and scope of the  
30 invention.

31 What is claimed is:

CLAIMS

1       1. A communication device comprising:

2                 (a) camera communication means for sending and  
3 receiving data to and from a digital camera; and

4                 (b) network communication means for sending and  
5 receiving said data through a network, to and from a  
6 destination device.

1       2. A communication device as recited in claim 1  
2 wherein said camera communication means utilizes an existing  
3 protocol of communication of said camera for communication  
4 to a PC, whereby said communication device is transparent to  
5 said camera.

1       3. A communication device as recited in claim 1  
2 wherein said network communication means includes a modem.

1       4. A communications device as recited in claim 3  
2 wherein said modem is connected via predefined phone numbers.

1       5. A communication device as recited in claim 1  
2 wherein said network communication means includes means for  
3 connecting to an ethernet network.

1       6. A communication device as recited in claim 1  
2 wherein said network communication means includes a network  
3 router.

1       7. A communication device as recited in claim 1  
2 wherein said network communication means includes means for  
3 establishing a wireless connection to a network.

1       8. a communication device as recited in claim 1  
2 wherein said network communication means includes means for  
3 establishing a satellite connection to a network.

1           9. A communication device as recited in claim 1  
2 wherein said destination device is a printer.

1           10. A communication device as recited in claim 1  
2 wherein said destination device is a phone switch.

1           11. A communication device as recited in claim 1  
2 wherein said destination device is a server.

1           12. A communication device as recited in claim 1  
2 wherein said communication device is programmable.

1           13. A communication device as recited in claim 1  
2 wherein said communication device has a unique  
3 identification.

1           14. A communication device as recited in claim 13  
2 wherein said communication device sends said unique  
3 identification as part of said data to be transmitted to said  
4 destination device.

1           15. A communication device as recited in claim 1  
2 wherein said communication device further comprises a counter  
3 to provide a unique identification number for image data  
4 representing a particular image.

1           16. A communication device as recited in claim 15  
2 wherein said communication device sends said unique  
3 identification of each said image as part of said  
4 transmission.

1           17. A communication device as recited in claim 1  
2 wherein said communication device includes means for  
3 providing time and date identification data indicating the  
4 time and date of processing of each image.

1           18. A communication device as recited in claim 17  
2 wherein said communication device receives said time and date  
3 identification data from the network.

1           19. A communication device as recited in claim 18  
2 wherein said communication device sends said time and date  
3 identification data as part of said data transmitted to said  
4 destination device.

1           20. A communication device as recited in claim 1  
2 wherein said communication device includes global positioning  
3 detection apparatus.

1           21. A communication device as recited in claim 20  
2 wherein said communication device sends global position data  
3 as part of said data transmittal to said destination device.

1           22. A communication device as recited in claim 12  
2 wherein said camera communication means includes means for  
3 entering data for programming said communication device.

1           23. A communication device as recited in claim 12  
2 wherein said communication device is programmed with data  
3 received from said destination device.

1           24. A communication device as recited in claim 1  
2 further comprising a Smart card port for reception of a Smart  
3 card.

1           25. A communication device as recited in claim 12  
2 wherein said communication device is programmable to receive  
3 camera operational parameter data and to send said camera  
4 operational parameter data to a camera connected to said  
5 communication device.

1           26. A communication device as recited in claim 12  
2 wherein said communication device is programmable to  
3 watermark image data received from a camera.

1           27. A communication device as recited in claim 12  
2 wherein said communication device is programmable to encrypt  
3 image data received from a camera.

1           28. A communication device as recited in claim 12  
2 wherein said communication device is programmable to form  
3 image authentication data.

1           29. A communication device as recited in claim 1  
2 wherein said network communication means is for sending data  
3 to a plurality of network destination devices.

1           30. A communication device as recited in claim 1  
2 further comprising a visual display for indicating the  
3 progression of said sending data.

1           31. A communication device as recited in claim 30  
2 wherein said visual display indicates a remaining number of  
3 images to be sent.

1           32. A communication device as recited in claim 30  
2 wherein said visual display indicates remaining time for  
3 transmission.

1           33. A communication device as recited in claim 30  
2 wherein said visual display indicates established connection  
3 to the camera.

1           34. A communication device as recited in claim 30  
2 wherein said visual display indicates established connection  
3 to said destination device.

1           35. A communication device as recited in claim 1  
2 wherein said camera communication means includes a serial  
3 port.

1           36. A communication device as recited in claim 1  
2 wherein said camera communication means includes a parallel  
3 port.

1           37. A communication device as recited in claim 1  
2 wherein said camera communication means includes a SCSI port.

1           38. A communication device as recited in claim 1  
2 wherein said camera communication means includes a USB port.

1           39. A communication device as recited in claim 1  
2 wherein said camera communication means includes an infrared  
3 port.

1           40. A method for transmitting digital data from a  
2 camera to a destination device said method comprising:

3           (a) performing operations by use of a communication  
4 device, said operations including

5           (i) sending said digital data from a camera to  
6 said communication device; and

7           (ii) structuring said camera data within said  
8 communication device to a compatible protocol for  
9 transmission through a network to a communication network to  
10 a destination device.

1           41. A method as recited in claim 40 wherein said  
2 destination device is a computer.

1           42. A method as recited in claim 40 wherein said  
2 destination device is a computer.

1           43. A method as recited in claim 40 wherein said  
2 destination device is a network.

1           44. A method as recited in claim 40 wherein said  
2 destination device is a printer.

1           45. A method as recited in claim 40 wherein said  
2 operations further include

3                 (a) encrypting said digital camera data to form  
4 encrypted camera data; and

5                 (b) structuring said encrypted data to a compatible  
6 protocol for transmission through a network to a destination  
7 device.

1           46. A method as recited in claim 40 wherein said  
2 operations further include

3                 (a) creating authentication data; and

4                 (b) structuring said authentication data to a  
5 compatible protocol for transmission through a network.

1           47. A method as recited in claim 40 further comprising  
2 programming said communication device to add additional data  
3 for transmission with said camera data to a network.

1           48. A method as recited in claim 40 further  
2 comprising:

3                 programming said communication device with operational  
4 instructions for transmission to said camera.

1           49. A method as recited in claim 40 further  
2 comprising:

3                 programming said communication device for encryption of  
4 camera data.

1           50. A method as recited in claim 40 further  
2 comprising:

3           programming said communication device for creating  
4 authentication data.

1           51. A method as recited in claim 40 further  
2 comprising:

3           programming said communication device for watermarking  
4 of camera data.

1           52. A method as recited in claim 40 further  
2 comprising:

3           programming said communications device for  
4 fingerprinting data.

1           53. A method as recited in claim 50 further  
2 comprising:

3           (a) transmitting unencrypted digital camera data to a  
4 first said destination device; and

5           (b) transmitting said authentication data to a second  
6 said destination device.

1           54. A method for transmitting digital camera data  
2 comprising:

3           (a) uploading said digital camera data from a camera  
4 to a communication device; and

5           (b) structuring said camera data within said  
6 communication device to a compatible format for transmission  
7 and display of said digital camera data on a video/TV  
8 receiver.

1           55. A digital camera comprising:

2           (a) means for converting light to digital image data;

3           (b) port means for receiving and sending digital data;

(c) means for transmitting and receiving said digital data to and from a destination device by way of a communication network; and

(d) means for automatically performing one or more programmed operations upon occurrence of a condition.

56. A digital camera as recited in claim 55 further comprising means for securing said digital image data.

57. A digital camera as recited in claim 56 wherein said programmed operations include said transmitting said data.

58. A communication device as recited in claim 1 further comprising means for automatically performing a programmed operation upon occurrence of a condition.

59. A communication device as recited in claim 58 wherein said programmed operation is receiving of image data from a camera and performing an operation in response to receiving said image data.

60. A communication device as recited in claim 58 wherein said condition is an instruction received from a destination by way of said network.

61. A communication device as recited in claim 58 wherein said condition is a specific time to perform said operation.

62. A communication device as recited in claim 58 wherein said condition is slow traffic on the network.

63. A communication device as recited in claim 58 wherein said operation is sending data to said network.

1           64. A communication device as recited in claim 58  
2 wherein said condition is a predefined amount of camera  
3 memory capacity available for storage of additional image  
4 data.

1           65. A communication device as recited in claim 58  
2 wherein said operation is receiving additional information  
3 from a remote destination.

1           66. A communication device as recited in claim 65  
2 wherein said additional information is for accompanying  
3 specific image data.

1           67. A communication device as recited in claim 65  
2 wherein said additional information is operational  
3 instructions.

1           68. A communication device as recited in claim 58  
2 wherein said operation is connecting to a network.

1           69. A communication device as recited in claim 58  
2 wherein said operation is disconnecting from a network.

1           70. A communication device as recited in claim 61  
2 wherein said operation is taking a picture.

1           71. A communication device as recited in claim 61  
2 wherein said operator is downloading said data to said  
3 destination device.

1           72. A communication device as recited in claim 61  
2 wherein said operation is uploading data from said  
3 destination device.

1           73. A communication device as recited in claim 72  
2 wherein said data includes a camera ID and account number.

1           74. A communication device as recited in claim 73  
2 wherein said operation further includes downloading said  
3 camera ID and account number upon occurrence of a second  
4 condition.

1           75. A communication device as recited in claim 1  
2 further comprising a ROM programmed for a specific purpose.

1           76. A communication device as recited in claim 75  
2 wherein said specific purpose is to restrict downloading to a  
3 specific destination.

1           77. A communication device as recited in claim 1  
2 further comprising visual display means for indicating  
3 operation status.

1           78. A communication device as recited in claim 77  
2 wherein said display means indicates when said device is  
3 programmed to connect to a network, and indicate when a  
4 network connection is made to said device.

1           79. A digital camera as recited in claim 57 wherein  
2 said condition includes said camera receiving a signal from  
3 said remote destination.

1           80. A digital camera as recited in claim 57 wherein  
2 said condition includes said camera programmed to perform a  
3 said operation at a specific time.

1           81. A digital camera as recited in claim 57 wherein  
2           (a) said means for securing includes means for  
3 creating encrypted data from said digital image data;  
4           (b) said programmed operations further include said  
5 securing, and said transmitting; and  
6           (c) said digital data includes information to be  
7 transmitted to said destination.

1           82. A digital camera as recited in claim 81 wherein  
2        said digital data includes

- 3           (a) camera identification data; and  
4           (b) user identification data.

1           83. A method as recited in claim 40 further  
2        comprising:

3           said communication device automatically responding to  
4        one or more conditions by performing one or more programmed  
5        operations.

1           84. A method as recited in claim 83 wherein

2           (a) said programmed operation is said transmitting;  
3        and

4           (b) said condition includes a signal from said  
5        destination.

1           85. A communication device as recited in claim 1  
2        further comprising means for including identification of a  
3        camera that secured a particular image along with said data  
4        representing said particular image.

1           86. A digital camera as recited in claim 55 further  
2        comprising means for including identification of said camera  
3        along with said data representing said particular image.

1           87. A method as recited in claim 40 further comprising  
2        means for including identification of a camera that secured a  
3        particular image along with said data representing said  
4        particular image.

1           88. A method as recited in claim 40 further comprising  
2        means for including a unique number with each group of said  
3        digital data representing a particular image.

1           89. A digital camera as recited in claim 86 further  
2 comprising means for including a unique number with each said  
3 data representing said particular image.

1           90. A digital camera as recited in claim 55 wherein  
2 said condition is a predefined amount of camera memory  
3 capacity available for storage of additional image data, and  
4 said operation is downloading of image data.

1           91. A digital camera as recited in claim 55 wherein  
2 said condition is a passing of a predetermined interval of  
3 time, and said operation is downloading of image data.

1           92. A digital camera as recited in claim 55 wherein  
2 said operation is downloading of image data into a pre-  
3 existing database.

1           93. A digital camera as recited in claim 55 wherein  
2 said condition originates at said camera, and said operation  
3 is downloading of image data.

1           94. A digital camera as recited in claim 55 wherein  
2 said digital data includes data received from a server.

1           95. A communication device as recited in claim 58  
2 wherein said condition is a passing of a predetermined  
3 interval of time, and said operation is downloading of image  
4 data.

1           96. A communication device as recited in claim 58  
2 wherein said operation is downloading of image data into a  
3 pre-existing database.

1           97. A communication device as recited in claim 58  
2 wherein said condition originates from said camera, and said  
3 operation is downloading of image data.

1           98. A communication devise as recited in claim 58  
2 wherein said digital data includes said communication device  
3 receiving a signal from said destination device.

1           99. A digital camera as recited in claim 55 wherein  
2 said condition is slow traffic on a network, and said  
3 operation is downloading data to a destination device  
4 through said network.

### ABSTRACT OF THE DISCLOSURE

A communication device for interconnecting a digital camera to a communication network for downloading data to a remote computer. The device has a network communication port for establishing communication with a network via a pre-defined protocol and communication mode, and has a camera communication port such as a serial, parallel, SCSI, USB or Irda-port that imitates the back end application of a PC, for connection to a digital camera for sending and receiving data to and from the camera. The camera communication port is also used for input of programming and setup data to the communication device from a PC.

The device can be programmed to operate on the data directly, such as in the case of data for storage or operational direction, and/or direct the data to the camera. The device may also have a Smart card socket into which a user can insert a card to input data, such as user and camera I.D., user authorization, image marking, camera operational parameters, remote computer/destination address, etc. The device can be programmed to perform encryption, authentication, watermarking and fingerprinting procedures, as well as structuring the data for transmission over a particular network, and to automatically perform operations, such as at specific times or in response to data input.

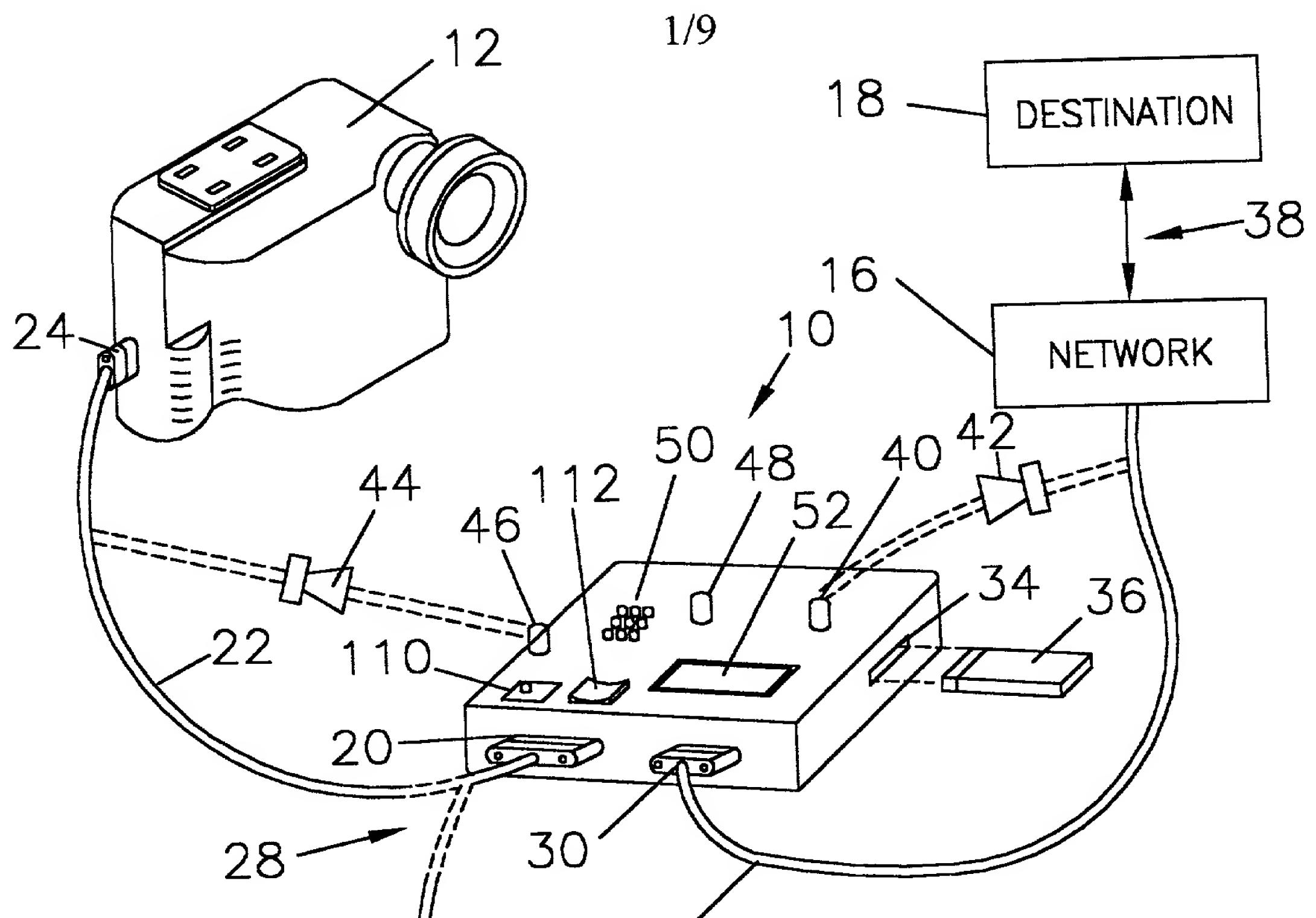


FIG. 1

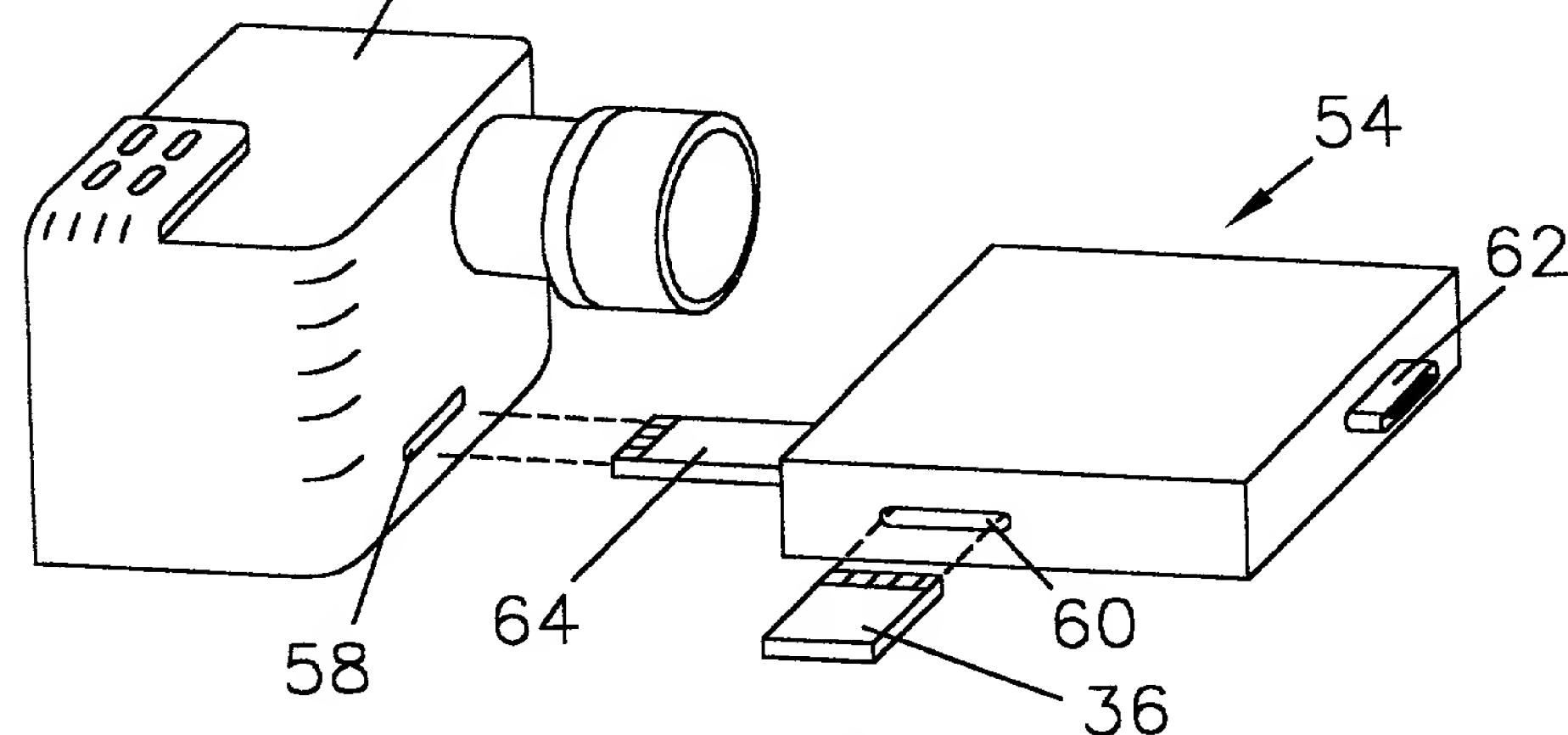


FIG. 2

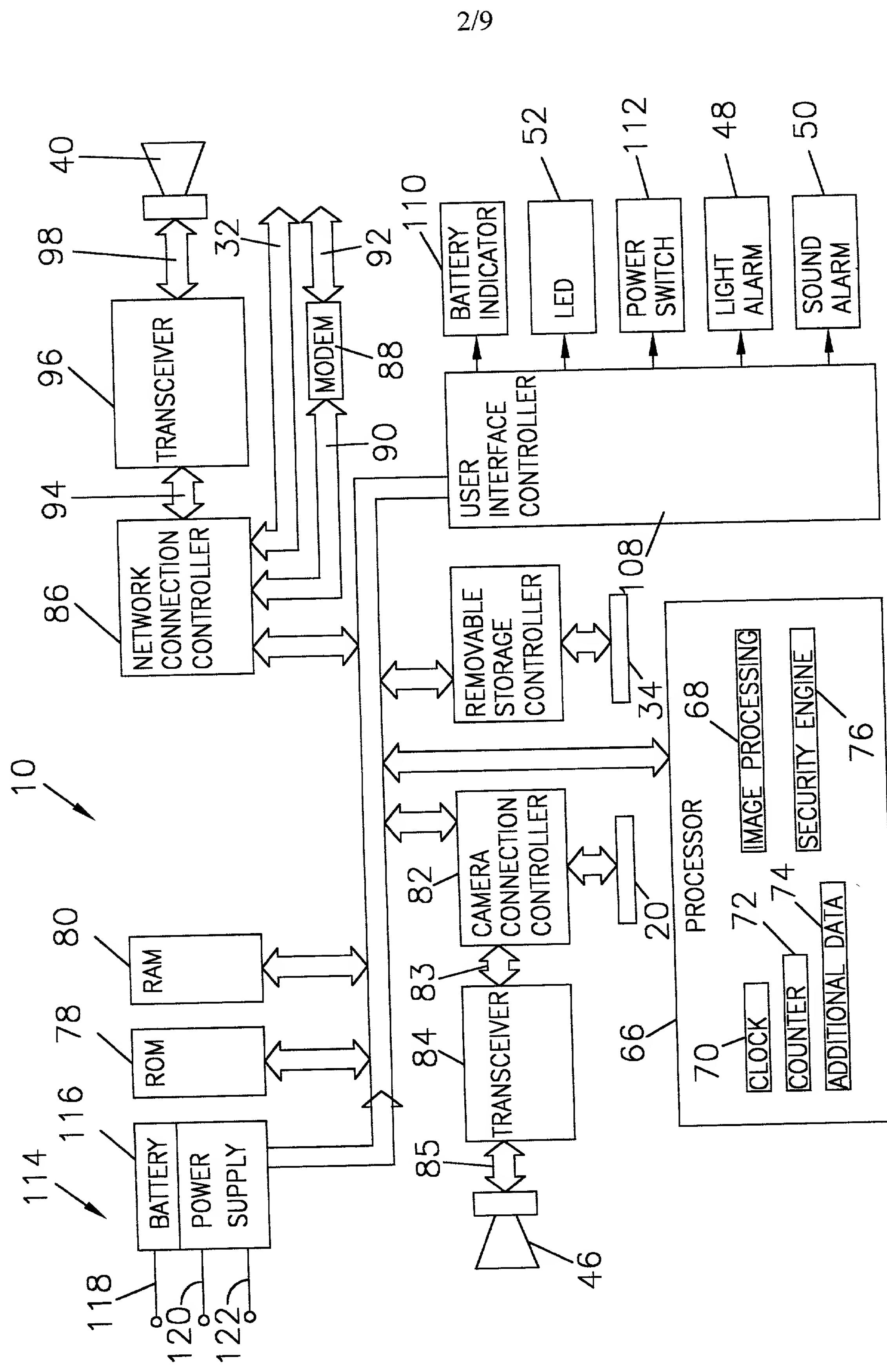


FIG. 3

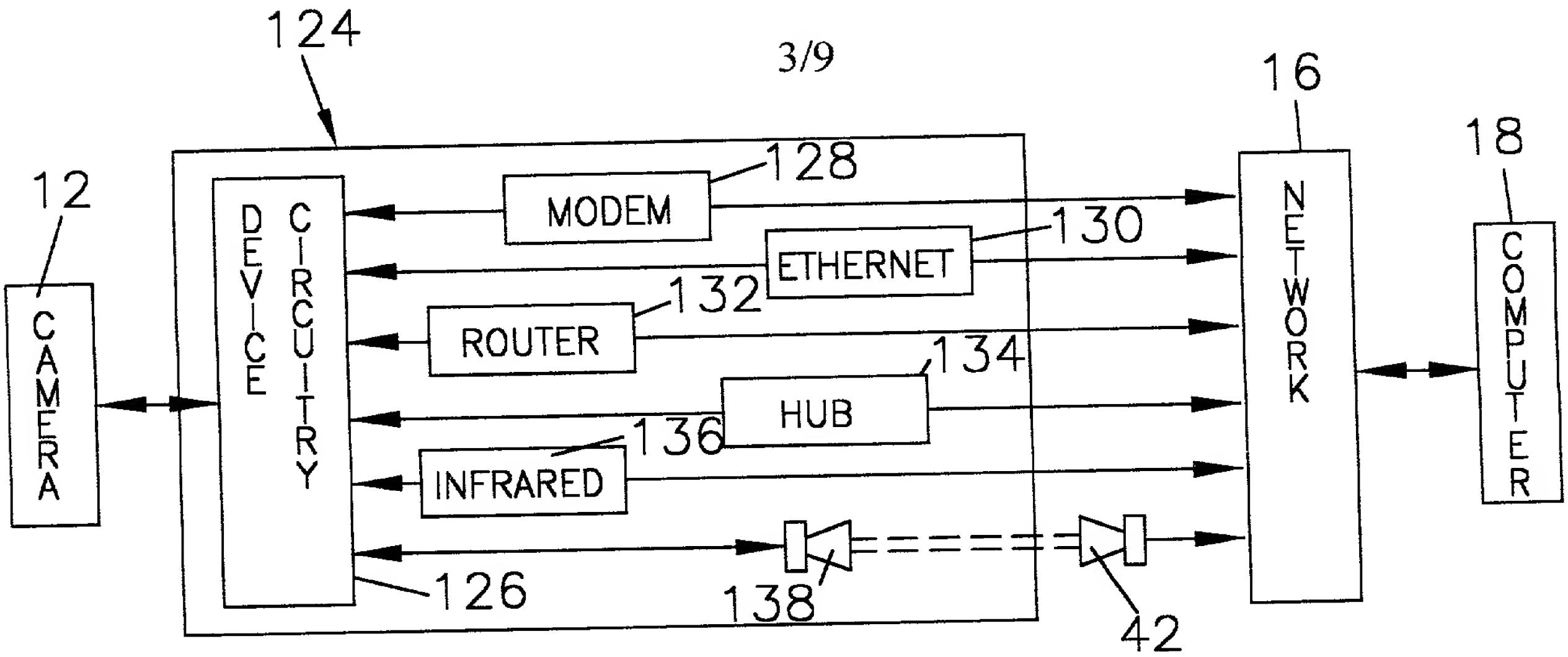


FIG. 4

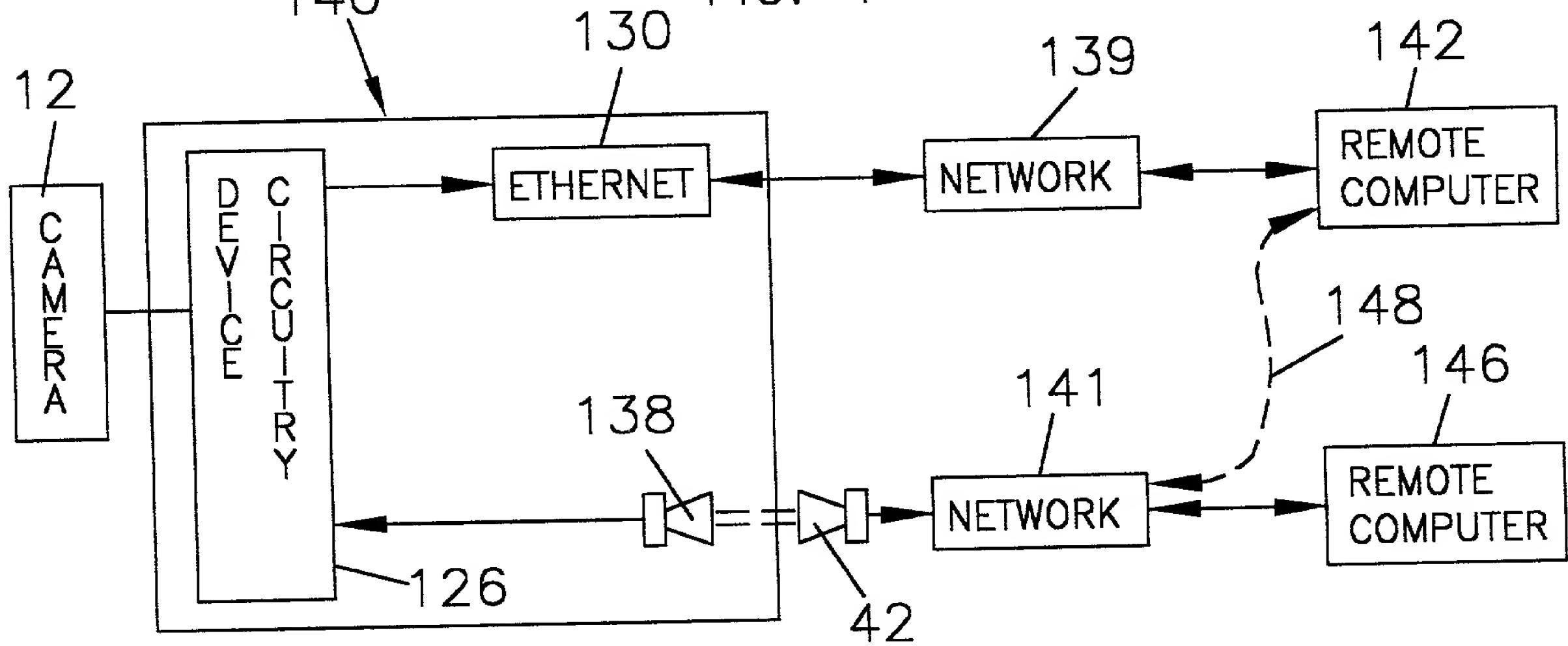


FIG. 5

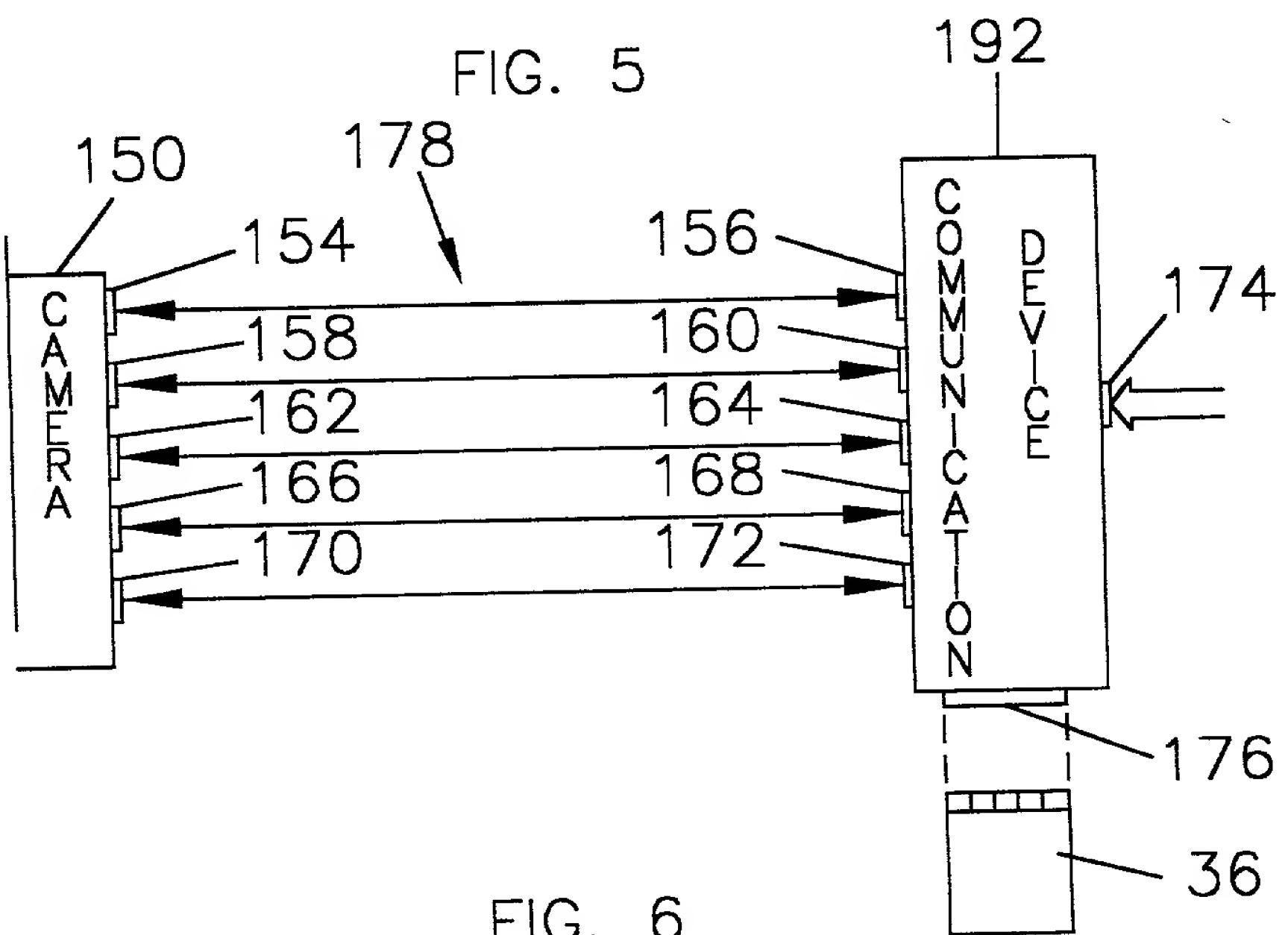


FIG. 6

device connection to network  
device connection to network

DEVICE CONNECTION TO NETWORK	DEVICE INFORMATION RE CAMERA	DEVICE INFORMATION FROM CAMERA
* TELEPHONY (MODEM) CONNECTION	* MAIL CLIENT CORBA/110P	* USER NAME * DATE AND TIME OF TRANSMISSION * OVERLAY ANNOTATION * DATE AND TIME OF CAPTURE * USER NAME OF PHOTOGRAPHER
* ETHERNET CONNECTION	* X-MODEM	ETC.
* ROUTER	* Z-MODEM	ETC.
* HUB	ETC.	ETC.
* INFO-RED CONNECTION	ETC.	ETC.
* CELLULAR CONNECTION	ETC.	ETC.
* UNLICENCED WIRELESS FREQUENCIES	ETC.	ETC.
* SATELLITE COMMUNICATION	ETC.	ETC.
DEVICE INFORMATION RE DESTINATION	OPERATIONAL INFORMATION FOR DEVICE AND/OR CAMERA	INSTRUCTION TO CAMERA FROM DEVICE
PHONE NUMBER	* PHONE NUMBER TO CALL	* LIVE IMAGE TAKE IMAGE
IP ADDRESS	* IP ADDRESS	* DELETE IMAGES
USER ACCOUNT NAME	* OPERATION TO BE PERFORMED ON IMAGES	* CHANGE CAMERA RESOLUTION
USER LOGIN	* PASSWORD (E.G. PUBLIC KEY PASSWORD)	* CHANGE FILE FORMAT
USER PASSWORD	ETC.	TURN FLASH ON/OFF
ETC.	ETC.	REMOTE FOCUS
		* WHITE BALANCE
		* APPLICATION OF DIGITAL FILTERING ON THE IMAGES WHILE CAPTURING THE IMAGES
		* REMOTE OPTICAL ZOOMING
		* REMOTE OPTICAL EXPOSURE (CHANGE F-STOP, BRACKET IMAGE EXPOSURE TIME ETC.)
		* REMOTE DIGITAL EXPOSURE (CHANGE GAIN, OFFSET, CCD EXPOSURE TIME ETC.)
		* DIGITAL ZOOMING
		* SELECTION OF ROI (E.G. FOR DIGITAL ZOOMING, IMAGE PROCESSING, FILTERING ETC.)
		ETC.

## DEVICE OPERATIONS ON IMAGE DATA

## OPERATING ON FILES:

- \* COMPRESSING/EXPANDING FILES
- \* PARSING FILES AND CONVERTING TO DIFFERENT FORMATS

## PERFORMING IMAGE ENHANCEMENT OPERATIONS SUCH AS:

- \* AUTOMATIC COLOR CORRECTION
- \* RESAMPLING
- \* SHARPENING
- \* ROTATION
- \* GENERIC IMAGE FILTERING

ETC.

## ADDING IDENTIFIERS TO THE IMAGES SUCH AS:

- \* STAMPING THE DATE AND TIME ON THE IMAGE
- \* ADDING THE USER'S NAME
- \* ADDING CAMERA UNIQUE ID
- \* ADDING AN IMAGE UNIQUE ID
- \* ADDING THE TIME AND DATE OF TRANSMISSION

## SECURE THE IMAGE VIA:

- \* WATERMARKING IMAGES
- \* AUTHENTICATING IMAGES
- \* ENCRYPTION IMAGES

FIG. 8

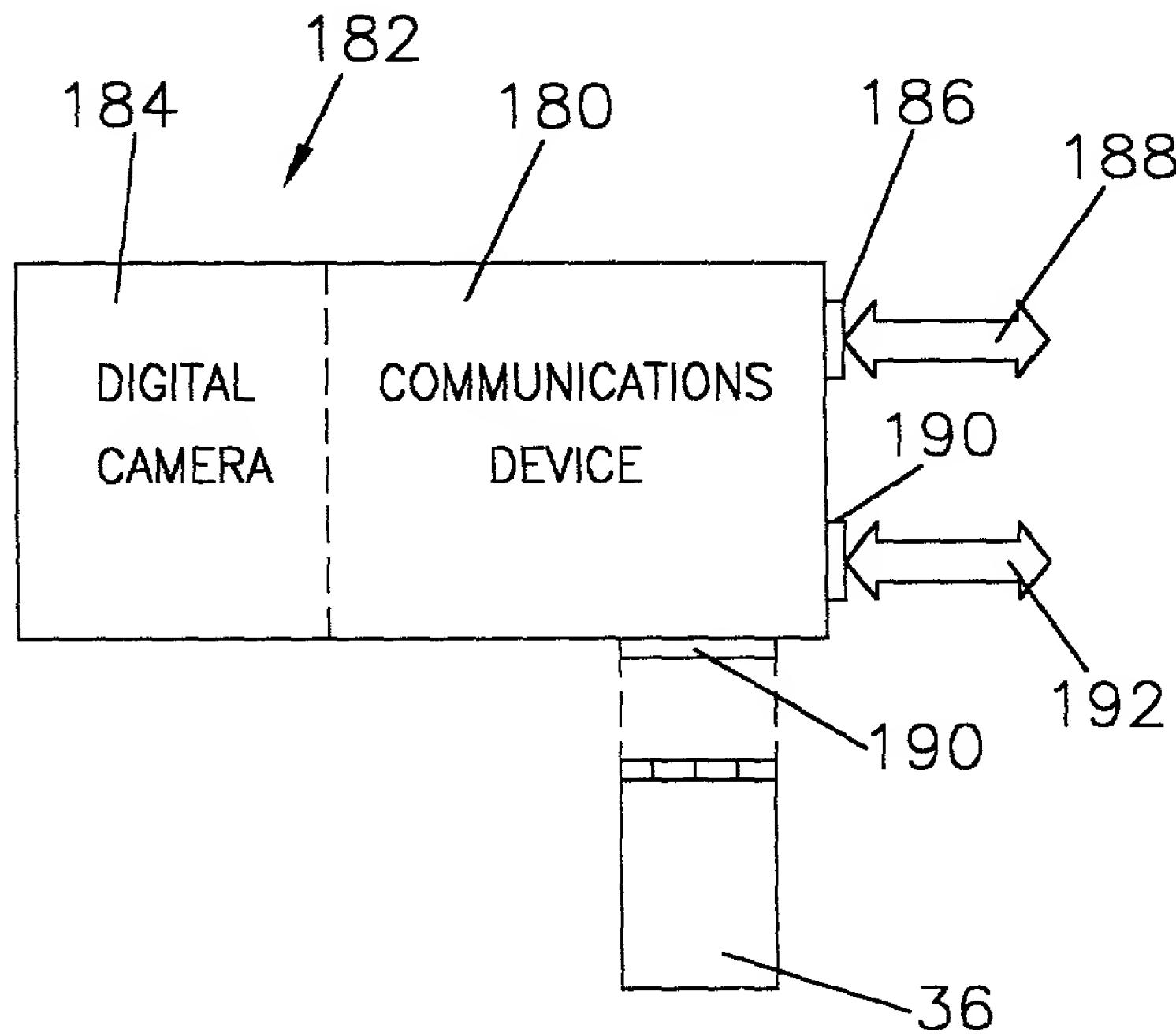
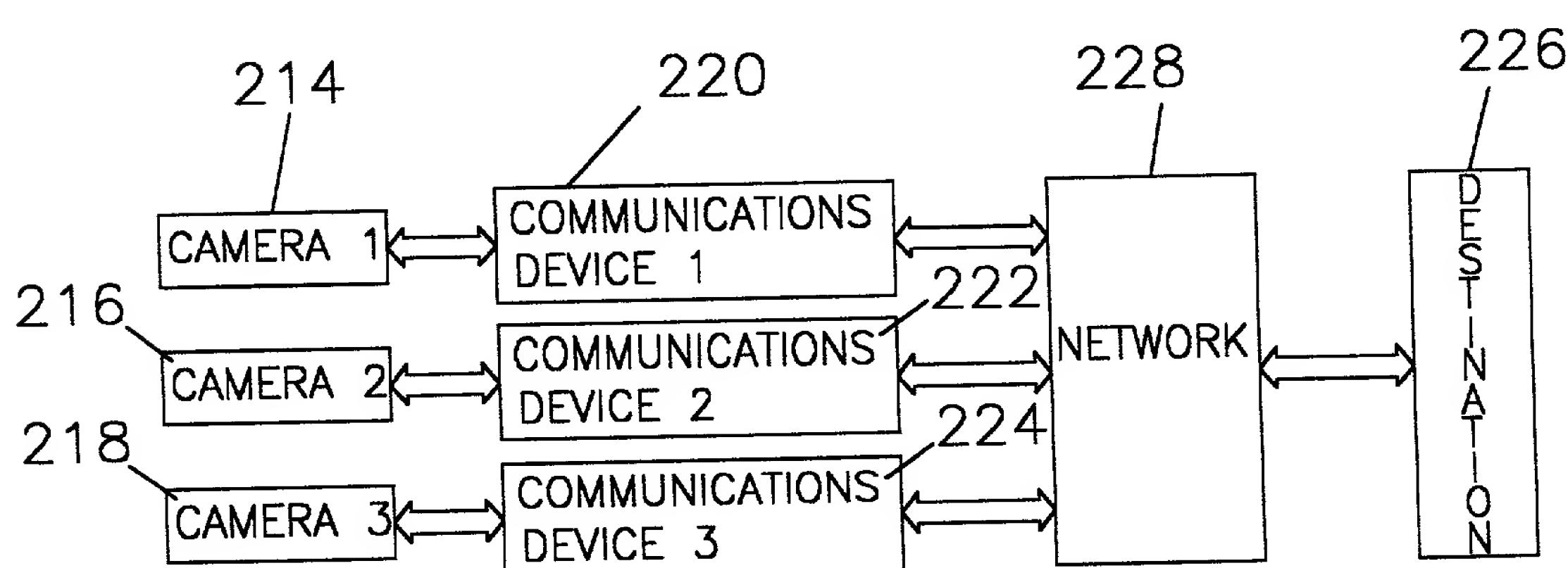
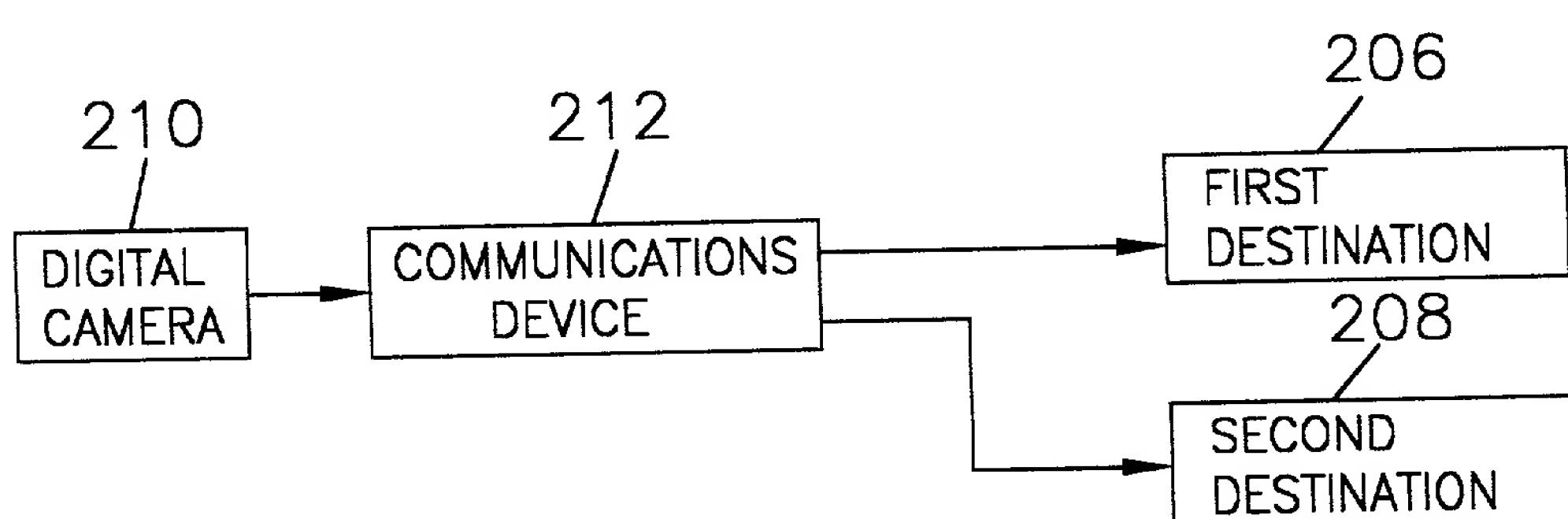
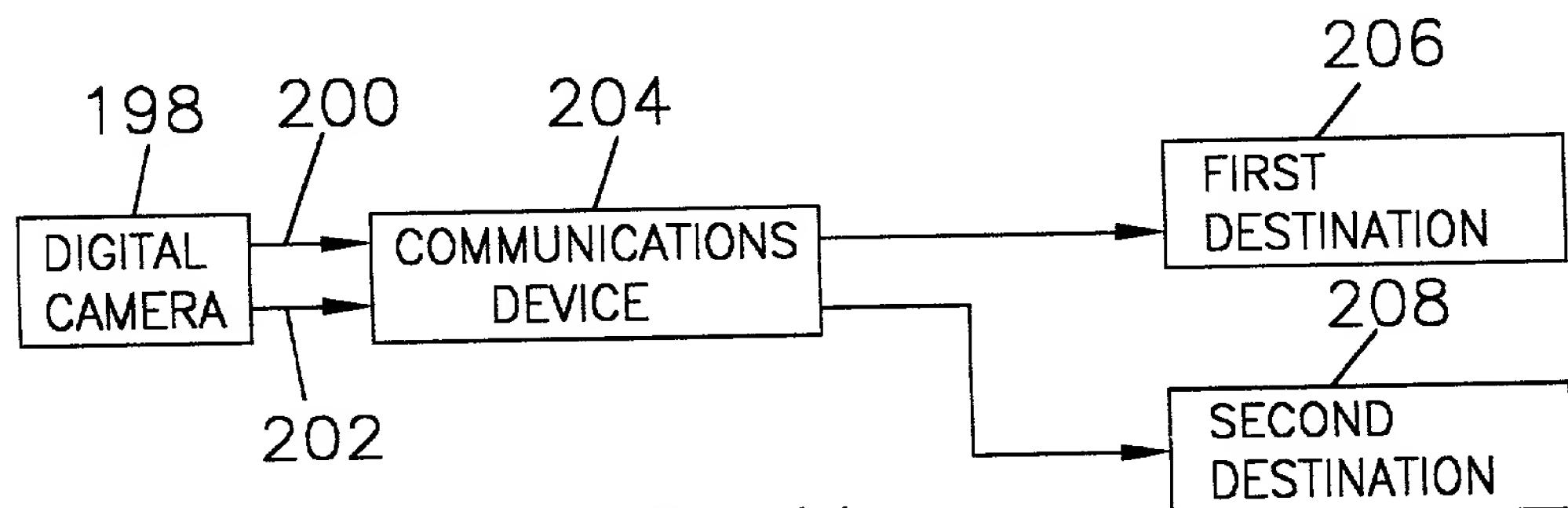
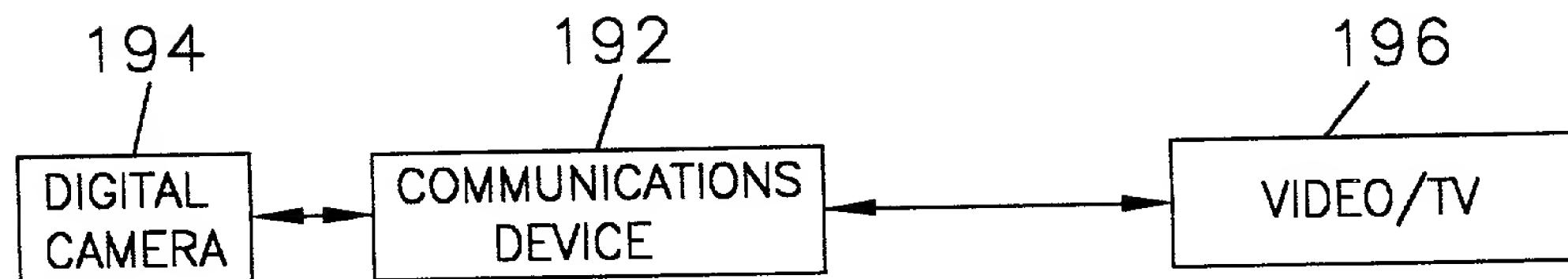


FIG. 9



100% 90% 80% 70% 60% 50% 40% 30% 20% 10% 0%

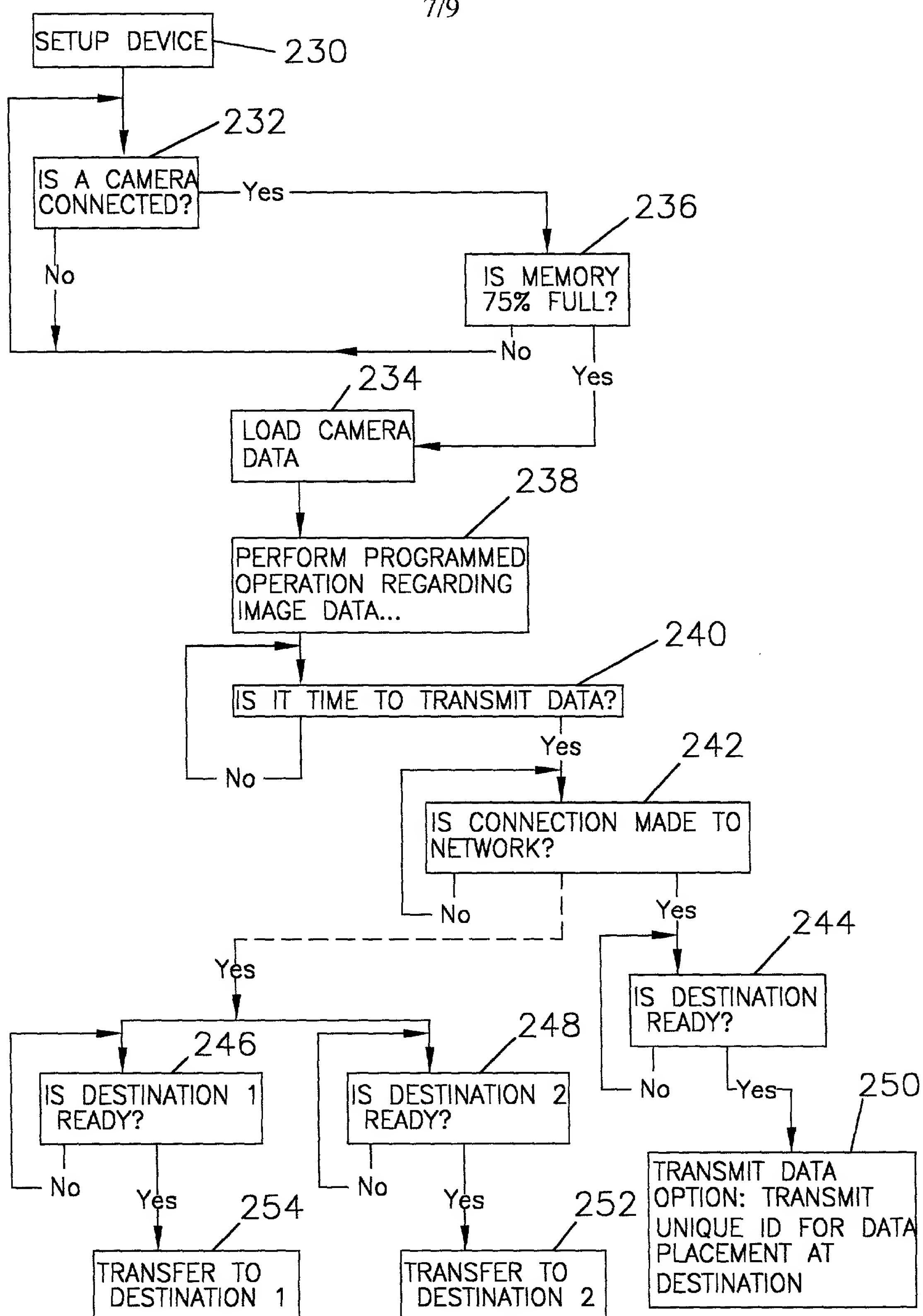


FIG. 14

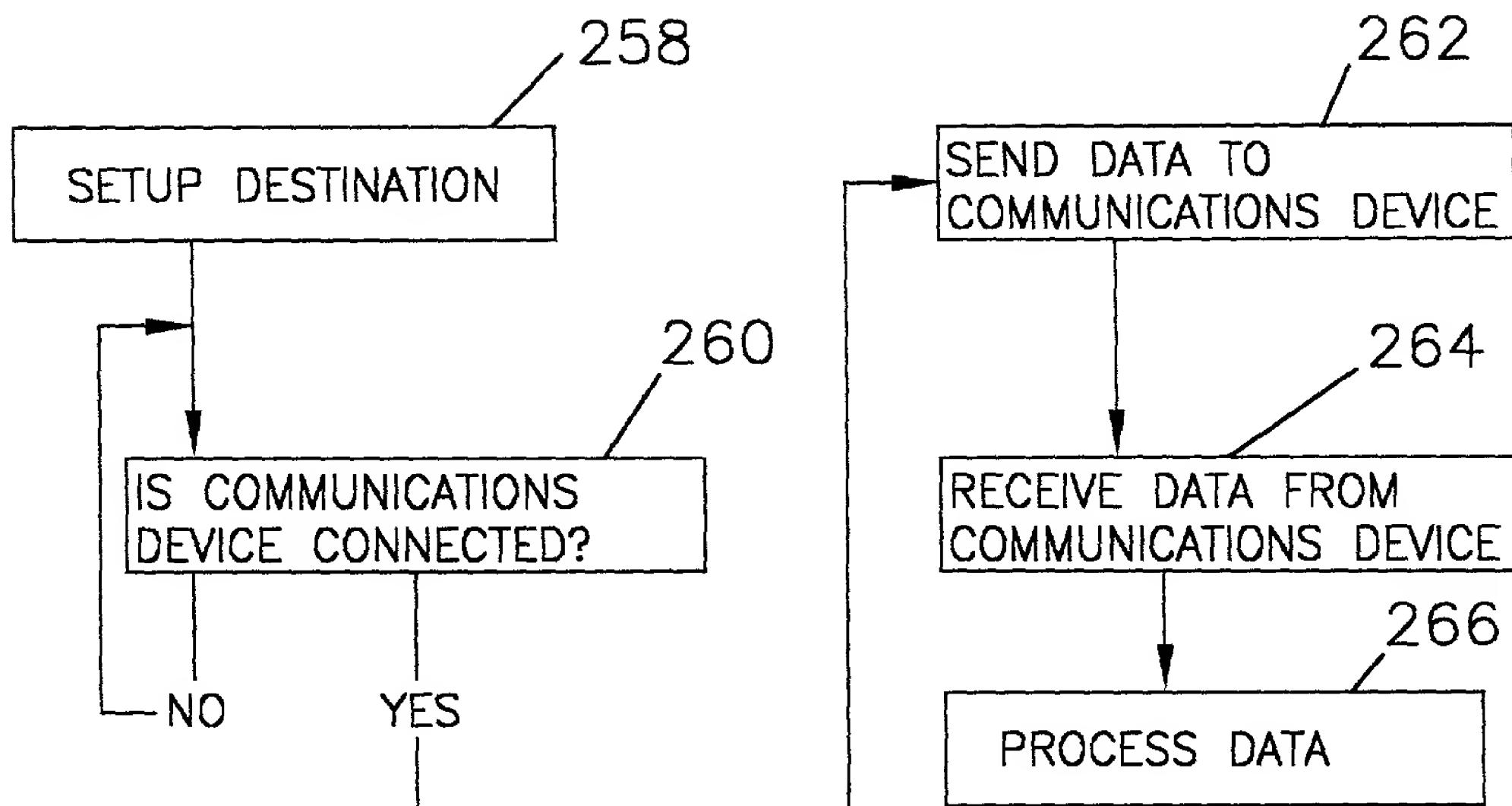


FIG. 15

DATA FROM DESTINATION TO DEVICE

1. TAKE A PICTURE AT A SET TIME OR AT INTERVALS
2. FOR IMAGE HEADER, ETC.
  - A) ACCOUNT ID
  - B) TITLE
  - C) NAME , ADDRESS, ETC.
3. OPERATIONAL DATA
  - A) WHERE TO TAKE A PICTURE
  - B) MAP OF LOCATION
  - C. CORRECTIVE NOTICES
4. INSTRUCTION TO DOWNLOAD DATA

DATA PROCESSING DETINATION

1. ENCRYPT AND STORE DATA
2. DECRYPT DATA AND PRINT IMAGE
3. ARCHIVE THE IMAGE
4. SEND IMAGE DATA TO REMOTE LOCATION
5. PLACE IMAGE DATA ON THE WEB
6. SEND DATA BY E-MAIL WITH LOW RESOLUTION OF IMAGE
7. SEND DECRYPTED IMAGE TO A FIRST DESTINATION
8. SEND AUTHENTICATION DATA TO A SECOND DESTINATION
9. COMPARE QUESTIONABLE IMAGE DATA FROM A THIRD SOURCE WITH AUTHENTICATION DATA AND DISPLAY THE RESULT

FIG. 16

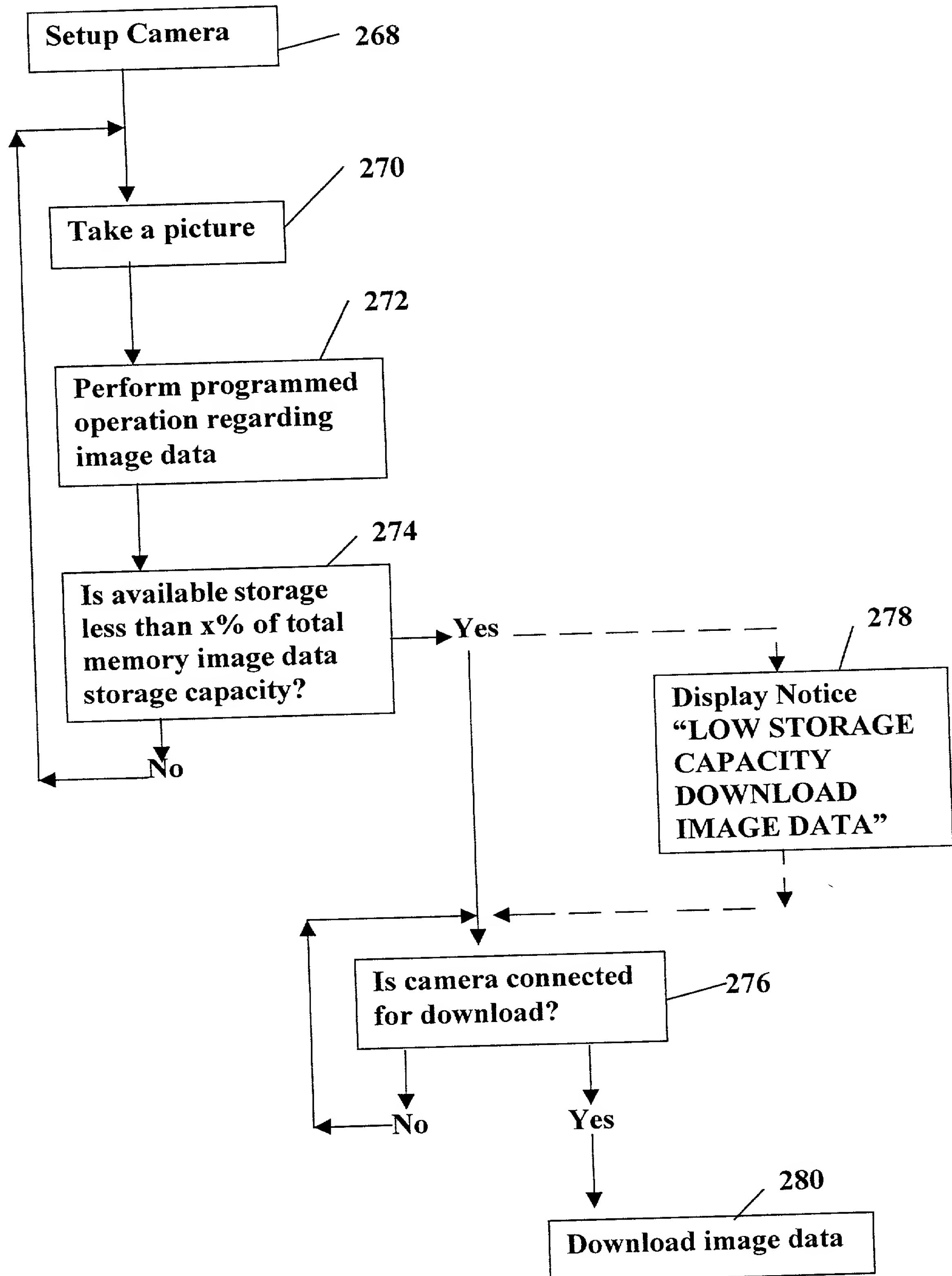


FIG. 17

**COMBINED DECLARATION AND POWER OF ATTORNEY**(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,  
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

**TYPE OF DECLARATION**

This declaration is of the following type:

(check one applicable item below)

- original.
- design.
- supplemental.

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- national stage of PCT.

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

NOTE: See 37 C.F.R. § 1.63(d) (continued prosecution application) for use of a prior nonprovisional application declaration in the continuation or divisional application being filed on behalf of the same or fewer of the inventors named in the prior application.

- divisional.
- continuation.

NOTE: Where an application discloses and claims subject matter not disclosed in the prior application, or a continuation or divisional application names an inventor not named in the prior application, a continuation-in-part application must be filed under 37 C.F.R. § 1.53(b) (application filing requirements — nonprovisional application).

- continuation-in-part (C-I-P).

**INVENTORSHIP IDENTIFICATION**

**WARNING:** If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

**TITLE OF INVENTION**

---

**CAMERA NETWORK COMMUNICATION DEVICE**

---

(Declaration and Power of Attorney [1-1]—page 1 of 7)

**SPECIFICATION IDENTIFICATION**

the specification of which:

(complete (a), (b), or (c))

- (a)  is attached hereto.

**NOTE:** "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed; or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

- (b)  was filed on \_\_\_\_\_, as  Serial No. 0 / \_\_\_\_\_  
 or  \_\_\_\_\_  
 and was amended on \_\_\_\_\_ (if applicable).

**NOTE:** Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 C.F.R. § 1.67.

**NOTE:** "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(A) application number (consisting of the series code and the serial number, e.g., 08/123,456);

"(B) serial number and filing date;

"(C) attorney docket number which was on the specification as filed;

"(D) title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(E) title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number, e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

M.P.E.P. § 601.01(a), 7th Ed.

- (c)  was described and claimed in PCT International Application No. \_\_\_\_\_, filed on \_\_\_\_\_ and as amended under PCT Article 19 on \_\_\_\_\_ (if any).

**SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))**

(complete the following where a supplemental declaration is being submitted)

- I hereby declare that the subject matter of the  
 attached amendment  
 amendment filed on \_\_\_\_\_

was part of my/our invention and was invented before the filing date of the original application, above-identified, for such invention.

**ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR**

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56,

(also check the following items, if desired)

- and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and  
 in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. § 1.98.

**PRIORITY CLAIM (35 U.S.C. §§ 119(a)–(d))**

NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent if the foreign application is referred to in the oath or declaration as required by § 1.63. The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) must be filed in the case of an interference (§ 1.630), when necessary to overcome the date of a reference relied upon by the examiner, when specifically required by the examiner, and in all other situations, before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by a petition requesting entry and by the fee set forth in § 1.17(i). If the certified copy is not in the English language, a translation need not be filed except in the case of interference; or when necessary to overcome the date of a reference relied upon by the examiner; or when specifically required by the examiner, in which event an English language translation must be filed together with a statement that the translation of the certified copy is accurate." 37 C.F.R. § 1.55(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119(a)–(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d)  no such applications have been filed.  
(e)  such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION  
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>
			<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/>

**CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)  
(34 U.S.C. § 119(e))**

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

**PROVISIONAL APPLICATION NUMBER**

\_\_\_\_ / \_\_\_\_\_  
\_\_\_\_ / \_\_\_\_\_  
\_\_\_\_ / \_\_\_\_\_

**FILING DATE**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)  
UNDER 35 U.S.C. § 120**

- The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN PART (C-I-P) APPLICATION.

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS  
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

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**NOTE:** If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

**POWER OF ATTORNEY**

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

*(list name and registration number)*

David H. Jaffer, 32,243

*(check the following item, if applicable)*

- I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

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SEND CORRESPONDENCE TO

DIRECT TELEPHONE CALLS TO:  
(Name and telephone number)

Address

David H. Jaffer  
ROSENBLUM PARISH & ISAACS  
160 W. Santa Clara St, 15th Floor  
San Jose, CA 95113

David H. Jaffer  
(408) 280-2800

Customer Number \_\_\_\_\_

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**DECLARATION**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**SIGNATURE(S)**

**NOTE:** Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

**NOTE:** Each inventor must be identified by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial, and by his/her residence, post office address and country of citizenship. 37 CFR § 1.63(a)(3).

**NOTE:** Inventors may execute separate declarations/oaths provided each declaration/oath sets forth all the inventors. Section 1.63(a)(3) requires that a declaration/oath, *inter alia*, identify each inventor and prohibits the execution of separate declarations/oaths which each sets forth only the name of the executing inventor. 62 Fed. Reg. 53,131, 53,142, October 10, 1997,

**Full name of sole or first inventor**

Eran  
(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

**STEINBERG**

FAMILY (OR LAST NAME)

Inventor's signature \_\_\_\_\_

Date \_\_\_\_\_

Country of Citizenship \_\_\_\_\_

Israel

Residence 372 Douglass Street

Post Office Address San Francisco, CA 94114

\_\_\_\_\_

**Full name of second joint inventor, if any**

Yury  
(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

**PRILUTSKY**  
FAMILY (OR LAST NAME)

Inventor's signature \_\_\_\_\_

Date \_\_\_\_\_

Country of Citizenship \_\_\_\_\_

United States

Residence 1426 Shoal Drive

Post Office Address San Mateo, CA 94404

\_\_\_\_\_

**Full name of third joint inventor, if any**

Scott  
(GIVEN NAME)

Neil  
(MIDDLE INITIAL OR NAME)

**RAFER**  
FAMILY (OR LAST NAME)

Inventor's signature \_\_\_\_\_

Date \_\_\_\_\_

Country of Citizenship \_\_\_\_\_

United States

Residence 1530 20th Street

Post Office Address San Francisco, CA 94107

*(check proper box(es) for any of the following added page(s)  
that form a part of this declaration)*

- Signature** for fourth and subsequent joint inventors. *Number of pages added* \_\_\_\_\_

\* \* \*

- Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* \_\_\_\_\_

\* \* \*

- Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added* \_\_\_\_\_

\* \* \*

- Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

\* \* \*

- Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

*Number of pages added* \_\_\_\_\_

\* \* \*

- Authorization of practitioner(s) to accept and follow instructions from representative.

\* \* \*

*(if no further pages form a part of this Declaration,  
then end this Declaration with this page and check the following item)*

- This declaration ends with this page.

**ADDED PAGE TO COMBINED DECLARATION  
AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION  
OR C-I-P APPLICATION**

*(complete this part only if this is a divisional, continuation or C-I-P application)*

**CLAIM FOR BENEFIT OF EARLIER U.S./PCT APPLICATION(S)  
UNDER 35 U.S.C. 120**

I hereby claim the benefit, under Title 35, United States Code, §. 120, of any United States application(s) or PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information.

that is material to patentability as defined in 37, Code of Federal Regulations, § 1.56

(also check the following item, if desired)

and that is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable examiner would consider it important in deciding whether to allow the application to issue as a patent,

that occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application. (37 C.F.R. § 1.63(e)).

(also check the following item, if desired)

In compliance with this duty, there is attached an information disclosure statement, in accordance with 37 C.F.R. 1.98.

<b>PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT UNDER 35 USC 120:</b>					
<b>U.S. APPLICATIONS</b>			<b>Status (check one)</b>		
<b>U.S. APPLICATIONS</b> <b>**</b>	<b>U.S. FILING DATE</b>		<b>Patented</b>	<b>Pending</b>	<b>Abandoned</b>
1.0 / _____					
2.0 / _____					
3.0 / _____					
<b>PCT APPLICATIONS DESIGNATING THE U.S.</b>					
<b>PCT APPLI- CATION NO.</b>	<b>PCT FILING DATE</b>	<b>U.S. APPLICATION NOS. ASSIGNED (if any)</b>			
4. _____		0 / _____			
5. _____		0 / _____			
6. _____		0 / _____			

**\*\*See Priority Claim in Preliminary Amendment.**

**35 USC 119 PRIORITY CLAIM, IF ANY,  
FOR ABOVE LISTED U.S./PCT APPLICATIONS**

<b>ABOVE APPLICATION NO.</b>	<b>DETAILS OF FOREIGN APPLICATION FROM WHICH PRIORITY CLAIMED UNDER 35 USC 119</b>		
	<b>Co untry and Application No.</b>	<b>Date of filing (day, month, year)</b>	<b>Date of issue (day, month, year)</b>
1.			
2.			
3.			
4.			
5.			
6.			

(Added Page to Combined Declaration and Power of Attorney for Divisional,  
Continuation or C-I-P Application [1-2.1]—page 3 of 3)